

PART B - DESIGNING

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B.1 Versioning

B.1.1 Versions Overview

The program will be developed by sections to aid the decomposition of this task. This will allow my client, Mickey, to get a better understanding of Clubhouse Cinema Booking's functionality as well as, also providing the opportunity for feedback on versions — enabling the creation of a more tailored product.

Version 1: GUI for **Sign Up Page**

- Opens when program starts.
- Displays text fields where the user can enter their name, email address and password.
- Contains button links which go to:
 - **User Home Page**
 - **Login Page**

Version 2: GUI for **Login Page**

- Opens when button on **Sign Up Page** is clicked.
- Displays text fields where the user or employee can enter their email address and password.
- Contains button links which goes to:
 - **User Home Page**
 - **Employee Home Page**
 - **Sign Up Page**

Version 3: GUI for **User Home Page**

- Opens when button on **Sign Up Page** or **Login Page** is clicked.
- Displays a series of bookable films.
- Contains clickable film covers which goes to:
 - **Film Page**
- Also contains log out button which goes to:
 - **Sign Up Page**

Version 4: GUI for **Film Page**

- Opens when a film cover on **User Home Page** is clicked.
- Displays description of the film, age rating, date and times being shown.
- Contains two button links which go to:
 - **Trailer** (plays trailer of the film)
 - **Ticket Booking Page**

Version 5: GUI for Ticket Booking Page

- Opens when a button on **Film Page** is clicked.
- Displays ticket type options (Adult, Child, Senior, VIP) and dropdown menus where the number of desired tickets, times and dates can be selected.
- Contains button links which go to:
 - **User Home Page**
 - **Film Page**
 - **Seat Booking Page**

Version 6: GUI for Seat Booking Page

- Opens when a button on **Ticket Booking Page** is clicked.
- Displays layout of cinema room, where the user can select seats.
- Contains button links which go to:
 - **User Home Page**
 - **Seat Booking Page**
 - **Confirmation Page**

Version 7: GUI for Confirmation Page

- Opens when a button on **Seat Booking Page** is clicked.
- Displays booking confirmation screen.
- Contains button links which:
 - Go to **User Home Page**
 - Emails booking confirmation to the user containing printable pdf document

Version 8: GUI for Employee Home Page

- Opens when a button on **Login Page** is clicked.
- Displays management home screen.
- Contains button links which:
 - Go to **Film Management Page**
 - Exports all bookings

Version 9: GUI for Film Management Page

- Opens when a button on **Employee Home Page** is clicked.
- Displays text fields where the employee can enter information about the film they want to add (name, picture, trailer, description, time and dates).
- Contains button links which go to:
 - **Employee Home Page**
 - **Available Films Page**
 - **Sign Up Page** (log out)

Version 10: GUI for Available Films Page

- Opens when a button on **Film Management Page** is clicked.
- Displays an interface much similar to the **User Home Page**.
- Contains clickable film covers which goes to:
 - **Employee Film Page**
- Contains button links which go to:
 - **Employee Home Page**
 - **Sign Up Page** (log out)

Version 11: GUI for Employee Film Page

- Opens when a film cover on **Available Films Page** is clicked.
- Displays description of the film, age rating, date and times being shown.
- Contains button links which:
 - Delete the film
 - Go to **Booking History Page**

Version 12: GUI for Booking History Page

- Opens when a button on **Employee Film Page** is clicked.
- Displays a table of booking history for all the films.
- Contains button links which:
 - Delete Booking
 - Go to **Employee Film Page**
 - Go to **Employee Home Page**

B.1.2 Versions

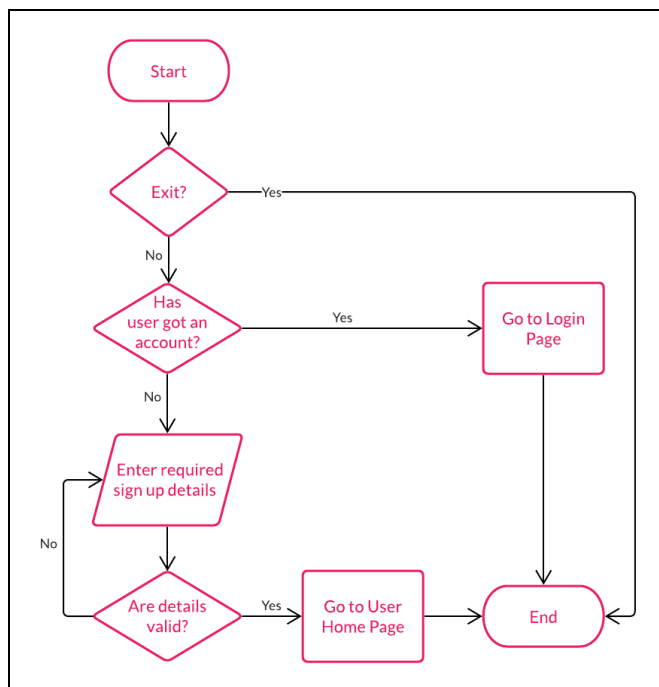
B.1.2.1 Version 1: Sign Up Page

This screen provides the user with registration access to my clients program.

Authenticated text fields where the user can enter their name, email address and password.

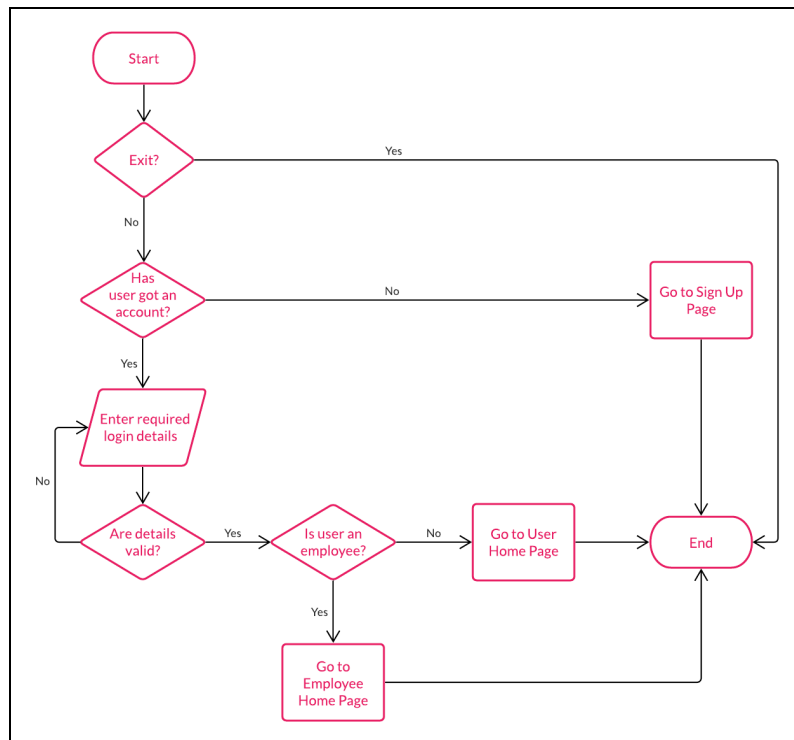
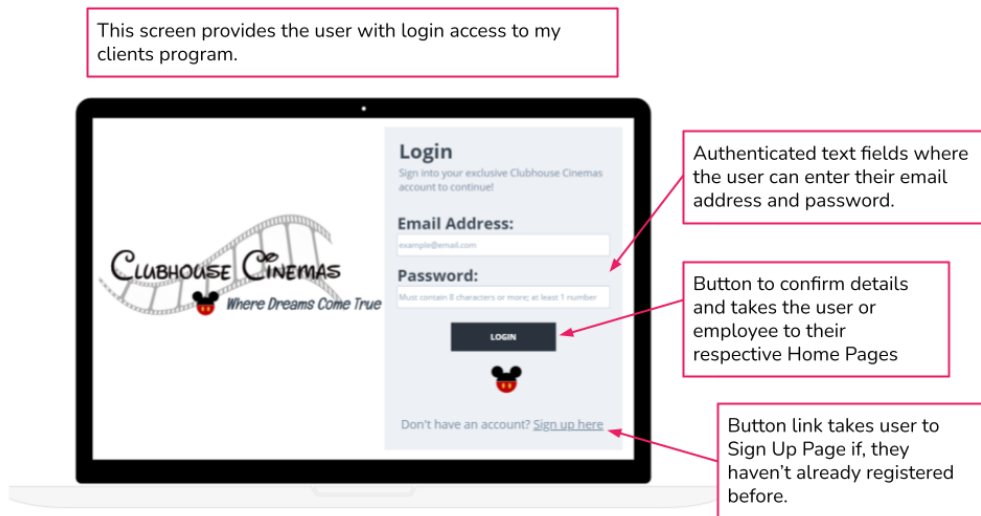
Button to confirm details and take user to User Home Page

Button link takes user to Login Page if, they have already registered before.



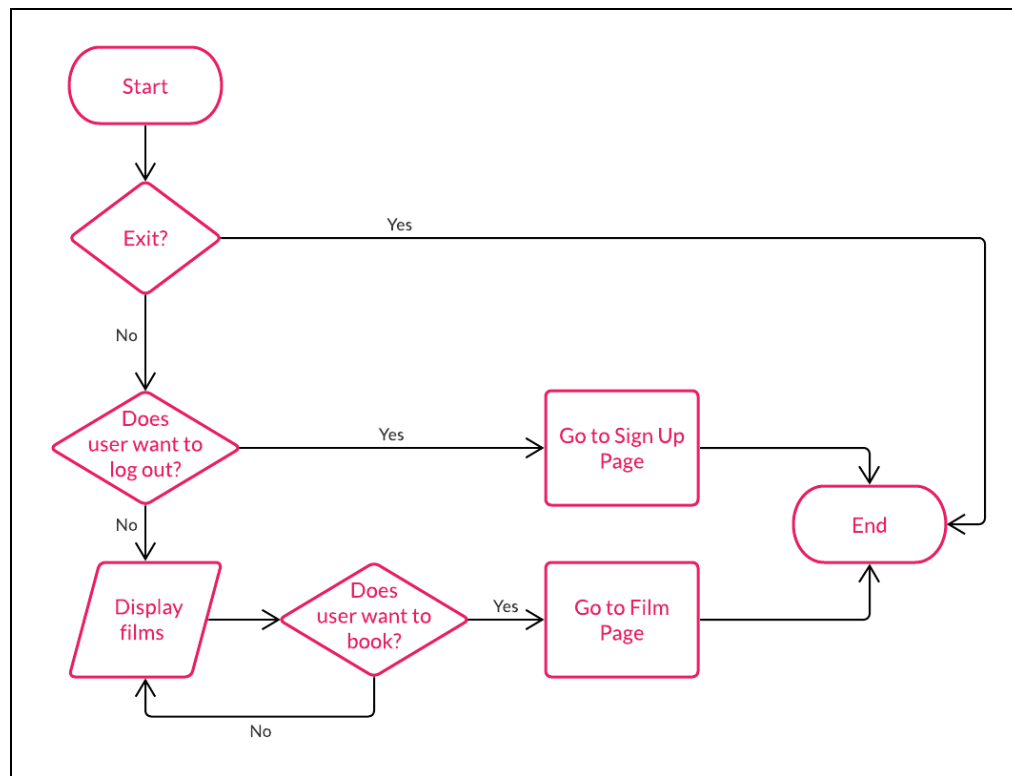
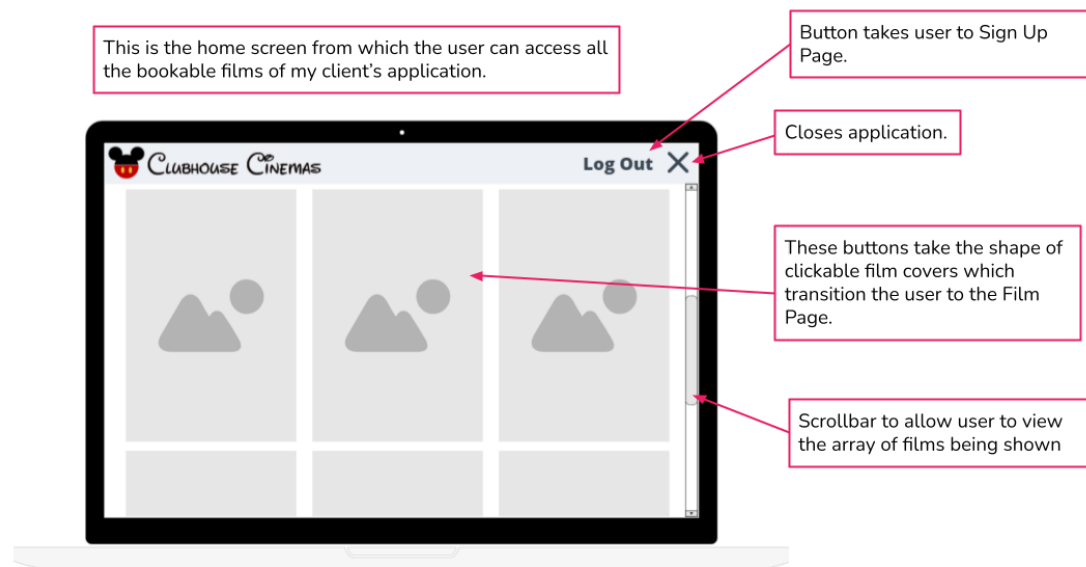
This first version acts as the main screen for the overall application, (see Appendix B.1.1): from here my client's users can access the rest of the program either by registering then logging in, or logging on to the next page.

B.1.2.2 Version 2: Login Page



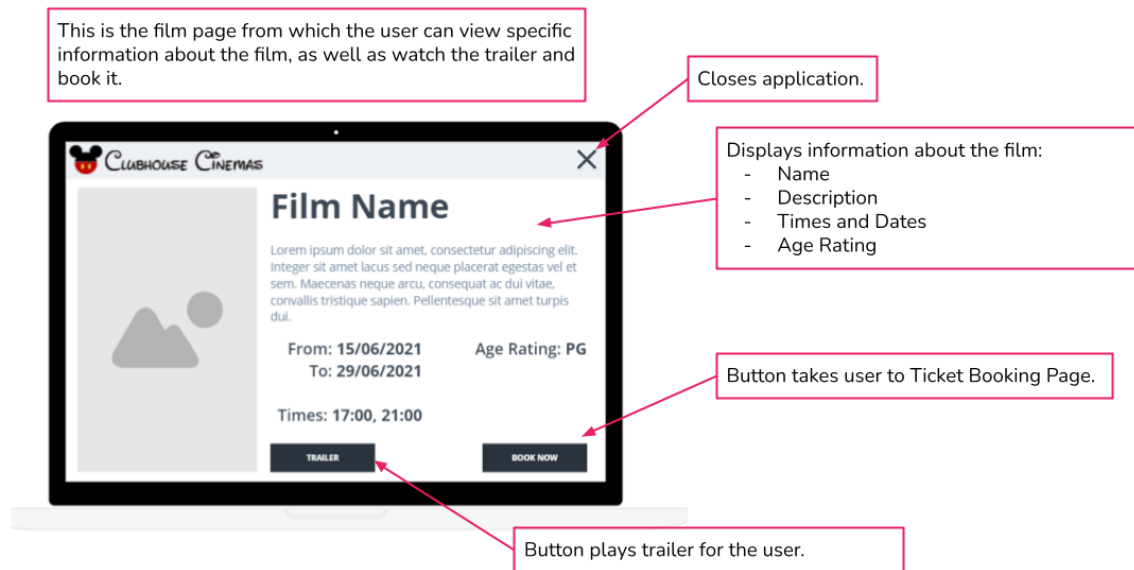
This second version serves as the pre-access to the program, where both the employee and the user will enter the required details to take them to their respective home pages (see Appendix B.1.2).

B.1.2.3 Version 3: User Home Page

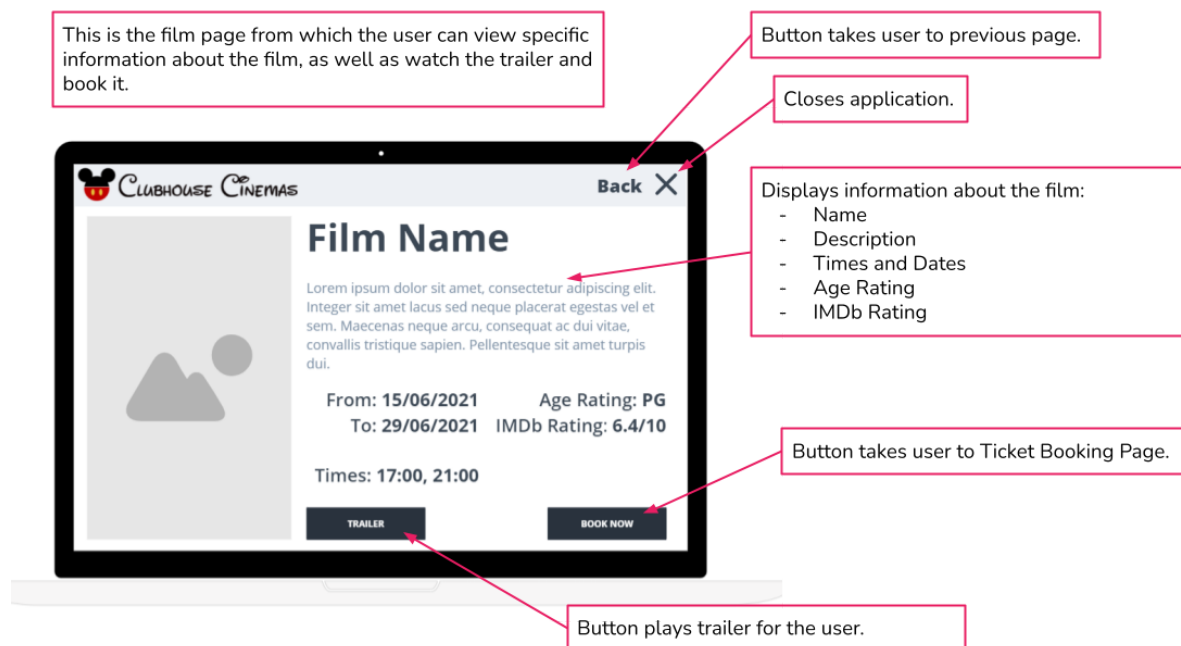


The third version acts as the home screen for the user, which can be reached by pressing the home icon on particular pages. From here my client's users can view and select the films they would like to see or book [\[see Appendix B.1.3\]](#).

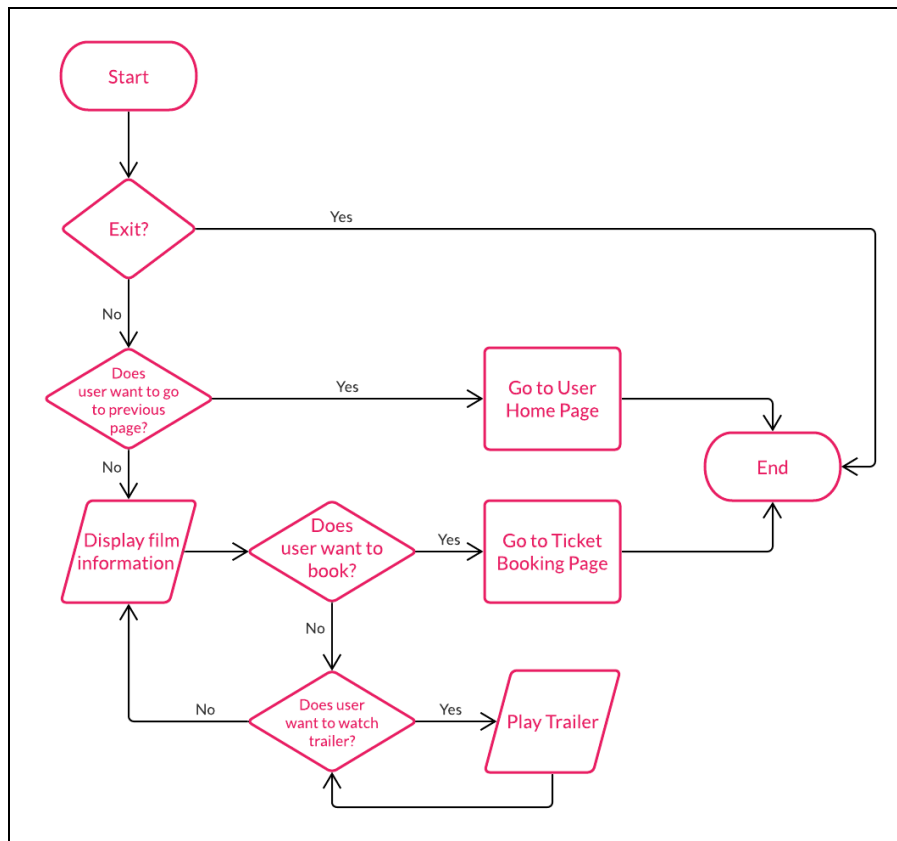
B.1.2.4a Version 4a: Film Page



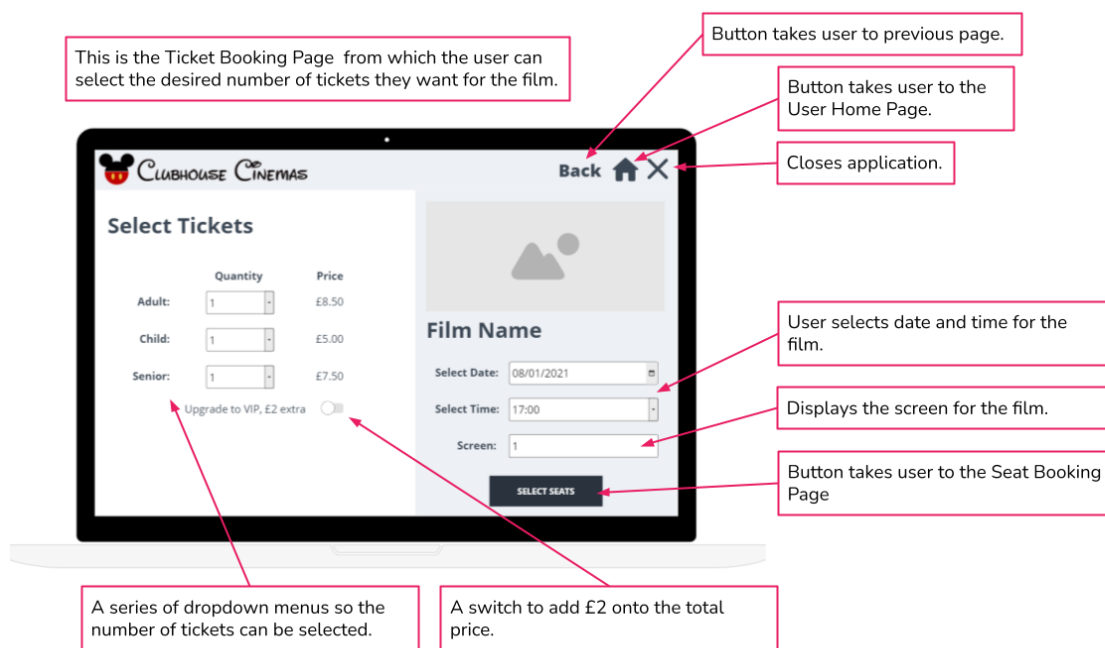
B.1.2.4b Version 4b: Film Page (revised)



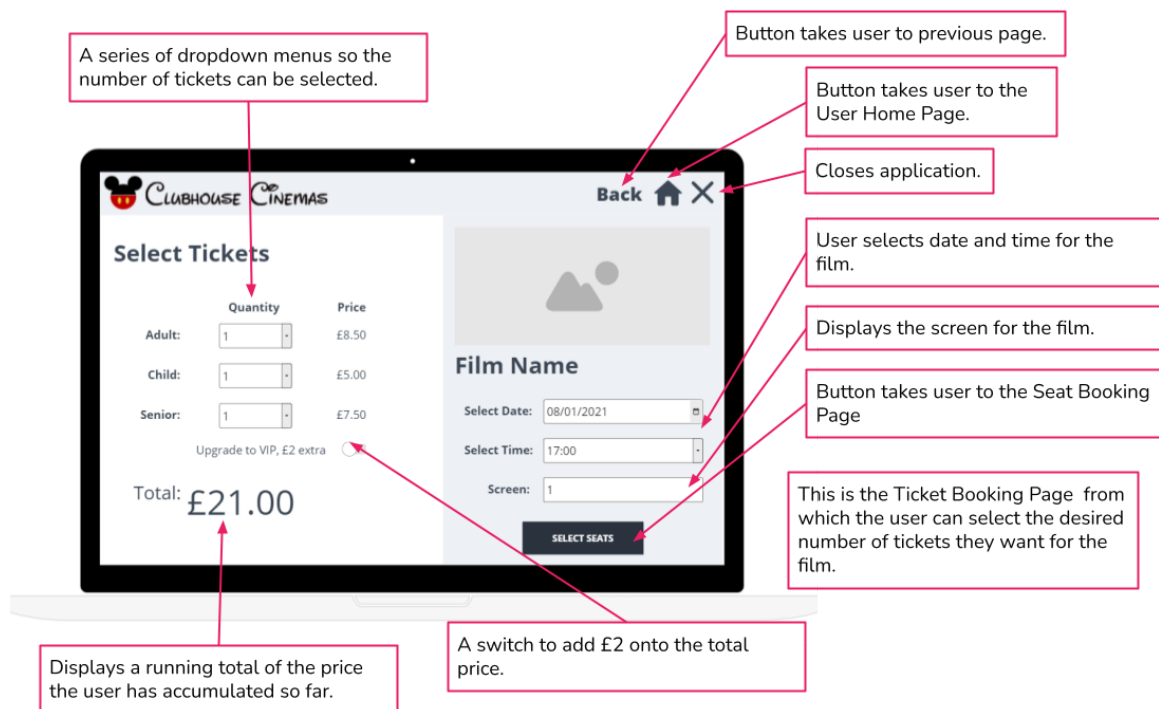
The fourth version details the layout for the film page screen (see Appendix B.1.4a). In the initial design for this wireframe, there was no option to the previous page as well as to see the IMDb rating. This was pointed out by my client and was revised to create the final design for this wireframe (see Appendix B.1.4b).



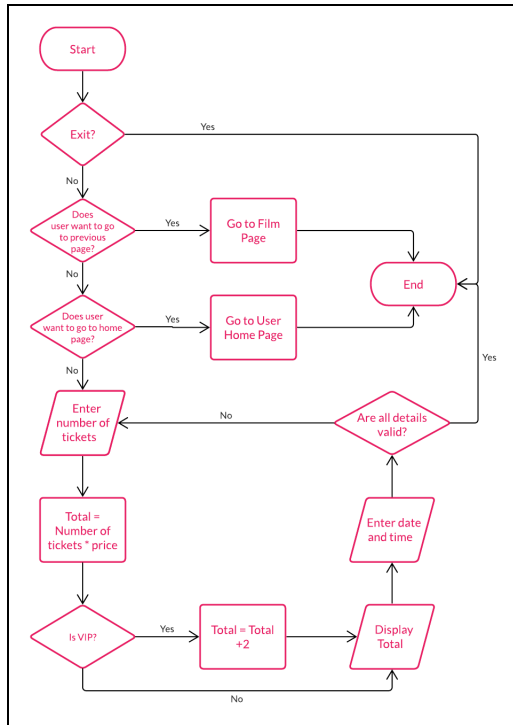
B.1.2.5a Version 5a: Ticket Booking Page



B.1.2.5b Version 5b: Ticket Booking Page (revised)

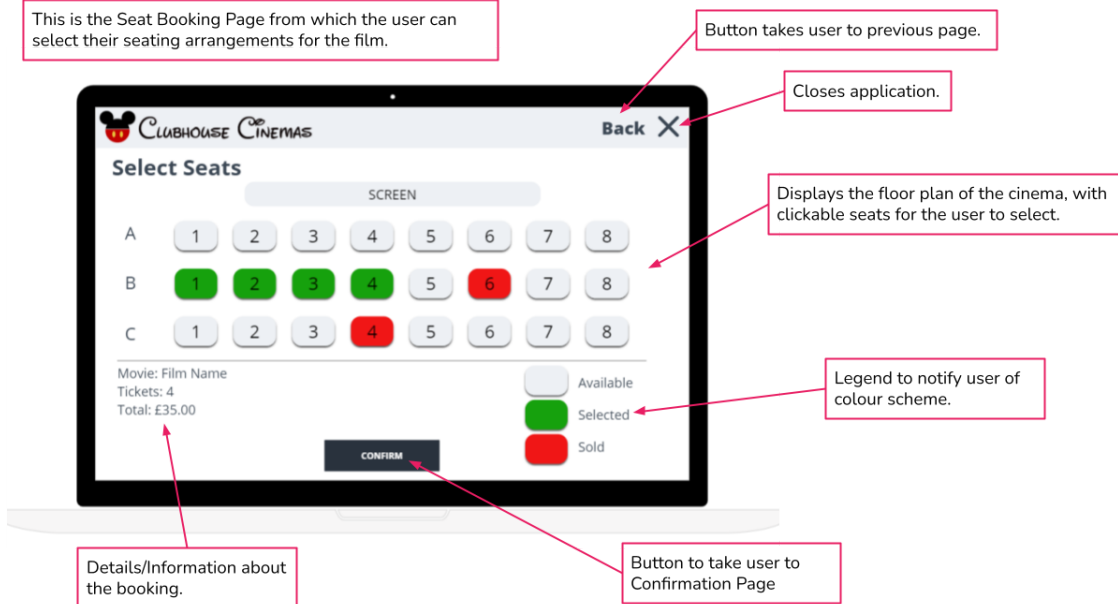


The fifth version depicts the ticket booking page, once the user has selected the film they desire to watch (see Appendix B.1.5a). In the first draft of the wireframe, there was no view of the running total as the user added tickets to the booking. This was made aware by my client and was changed to create the final design for this wireframe (see Appendix B.1.5b).

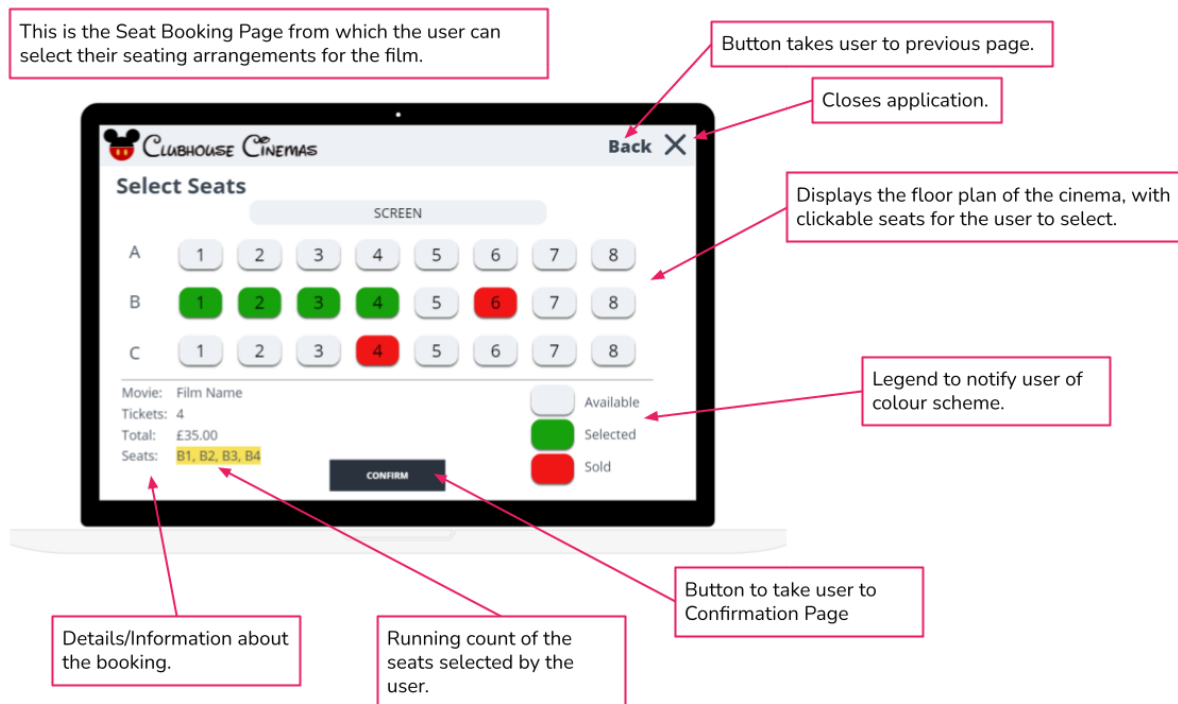


B.1.2.6 Version 6a: Seat Booking Page

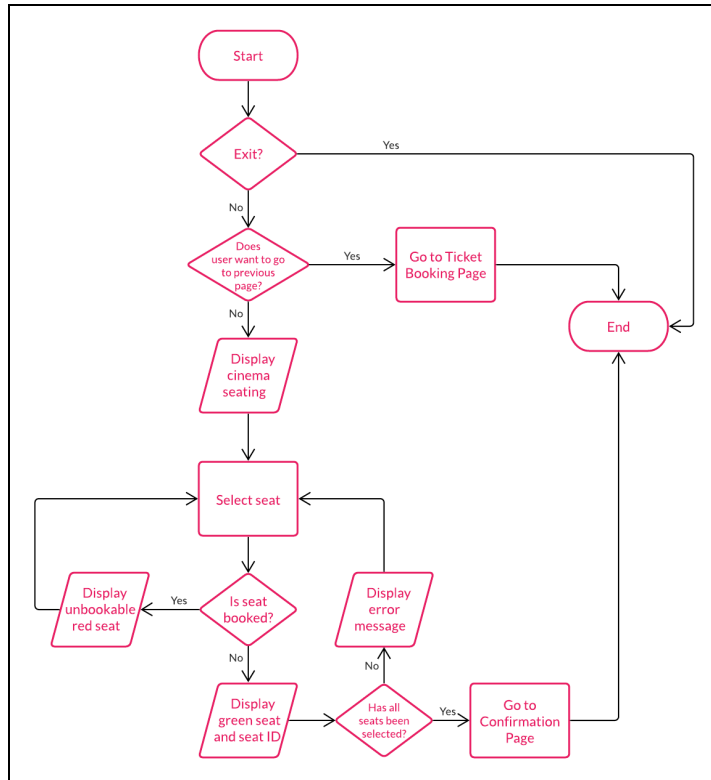
This is the Seat Booking Page from which the user can select their seating arrangements for the film.



B.1.2.6b Version 6b: Seat Booking Page (revised)

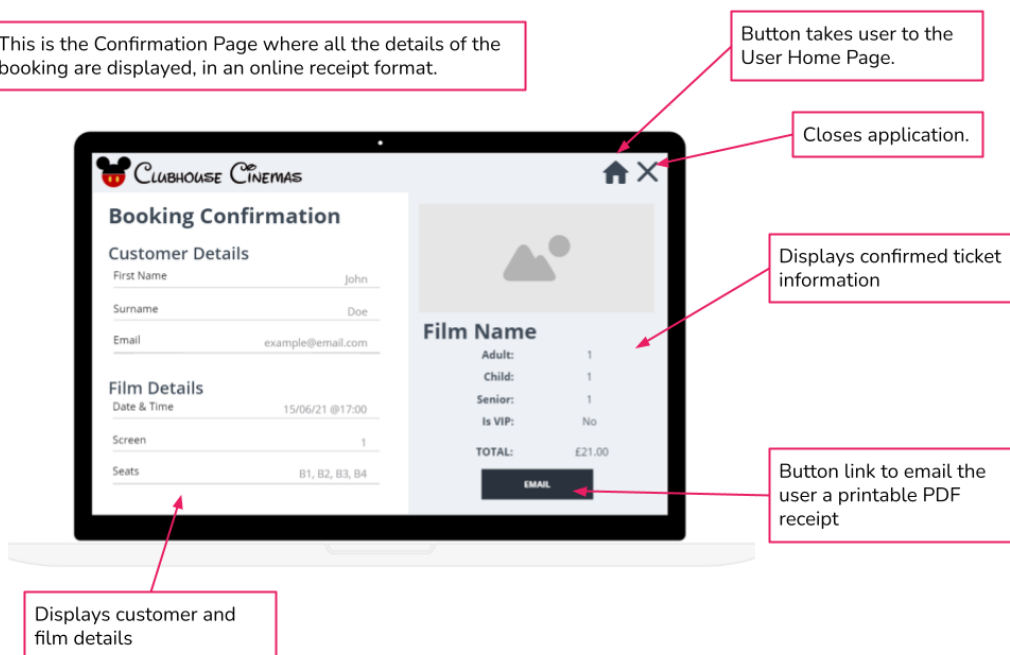


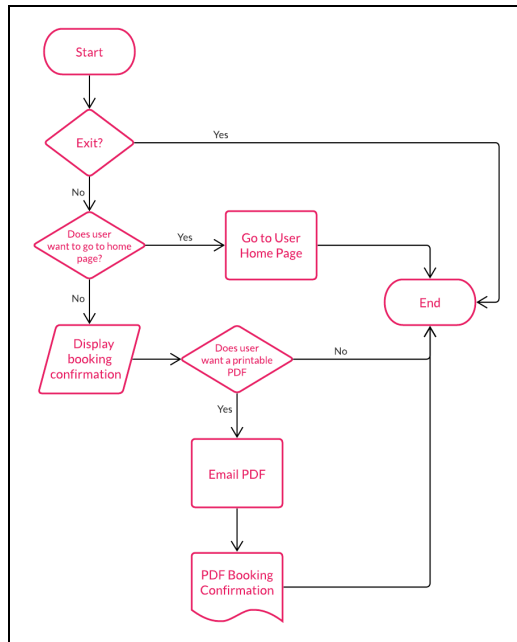
The sixth version depicts the screen layout for the user to select their desired seats (see Appendix B.1.6a). Similar to the running total on the previous wireframe, the revised version contains a running count of the seats being booked by the user. Place under the booking details, this was proposed by my client after seeing the initial design (see Appendix B.1.6b).



B.1.2.7 Version 7: Confirmation Page

This is the Confirmation Page where all the details of the booking are displayed, in an online receipt format.

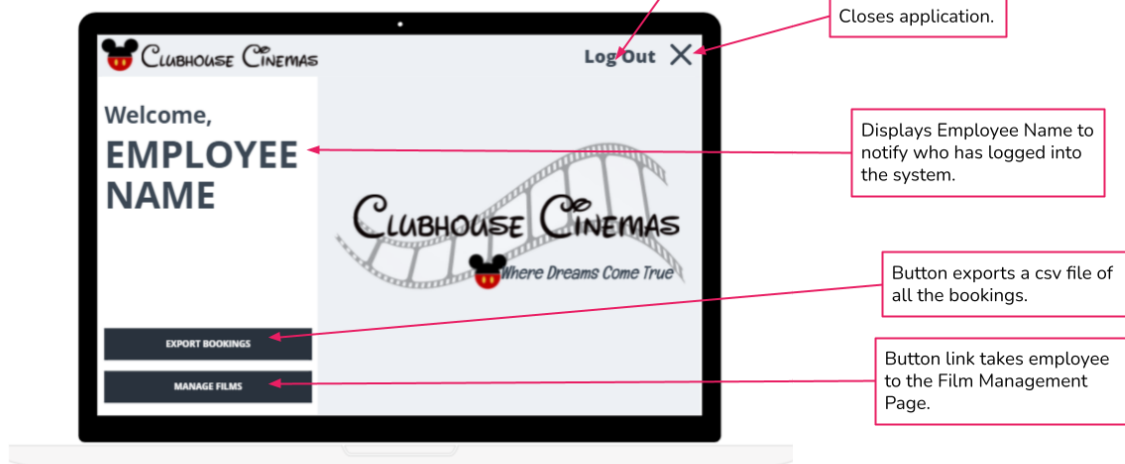


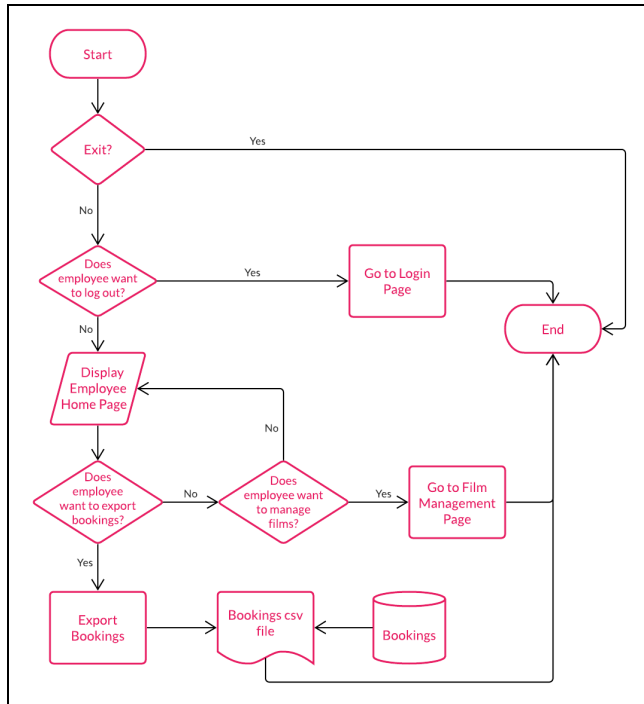


The seventh version details the booking confirmation, which is displayed when all steps in the booking process have been completed (see Appendix B.1.7).

B.1.2.8 Version 8: Employee Home Page

This is the Employee Home Page in which the employee will be taken to when they enter their respective details on the Login Page.

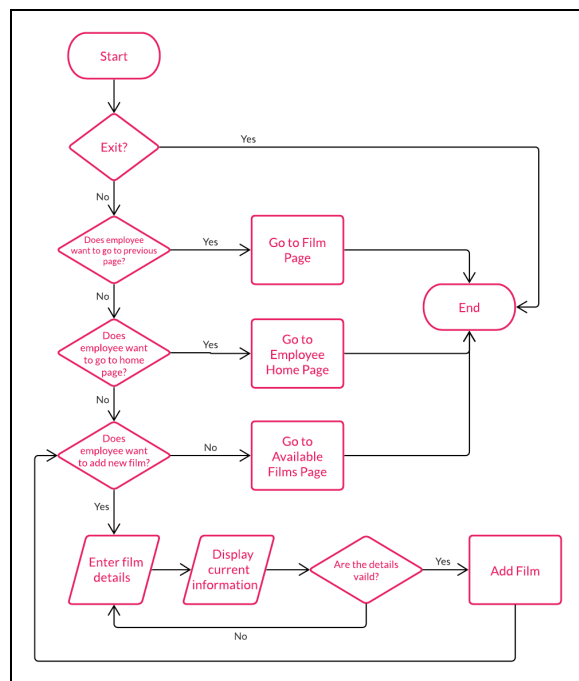




The eighth version acts as the home screen for my client, which can be reached by pressing the home icon on particular pages. From here my client can have the option to export all bookings or manage the films on show at the cinema (see Appendix B.1.8).

B.1.2.9 Version 9: Film Management Page

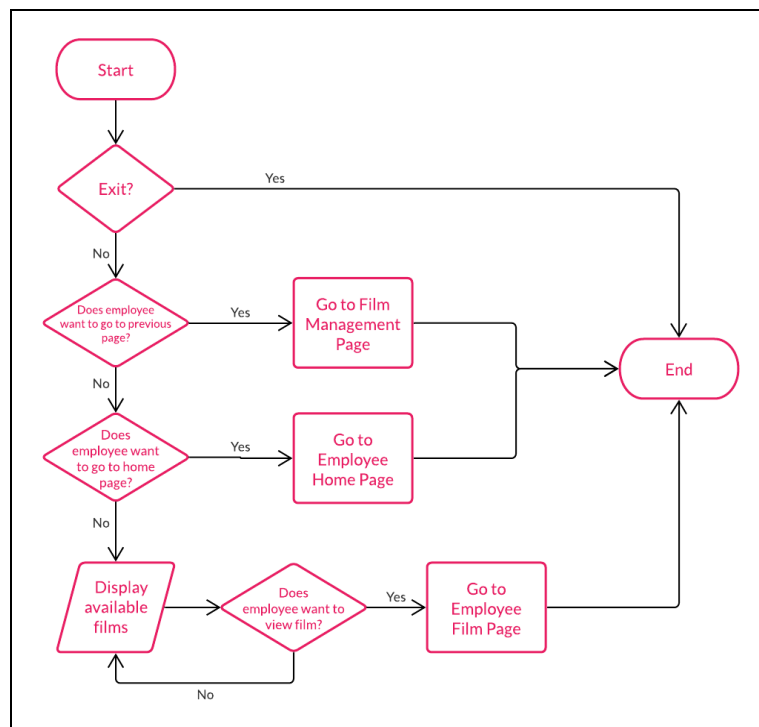
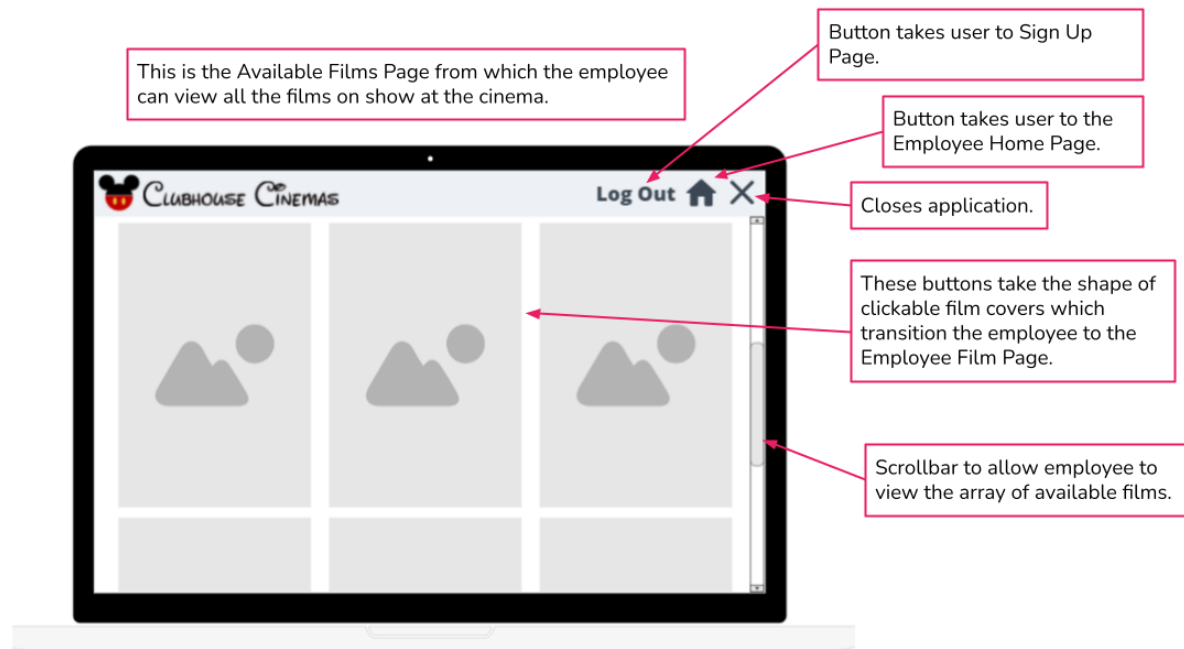
This is the Film Management Page, which allows the employee to add films to the array of films shown.



The ninth version depicts the layout for the film management page for which the client can enter the required information needed to add a new film to the system. This involves uploading

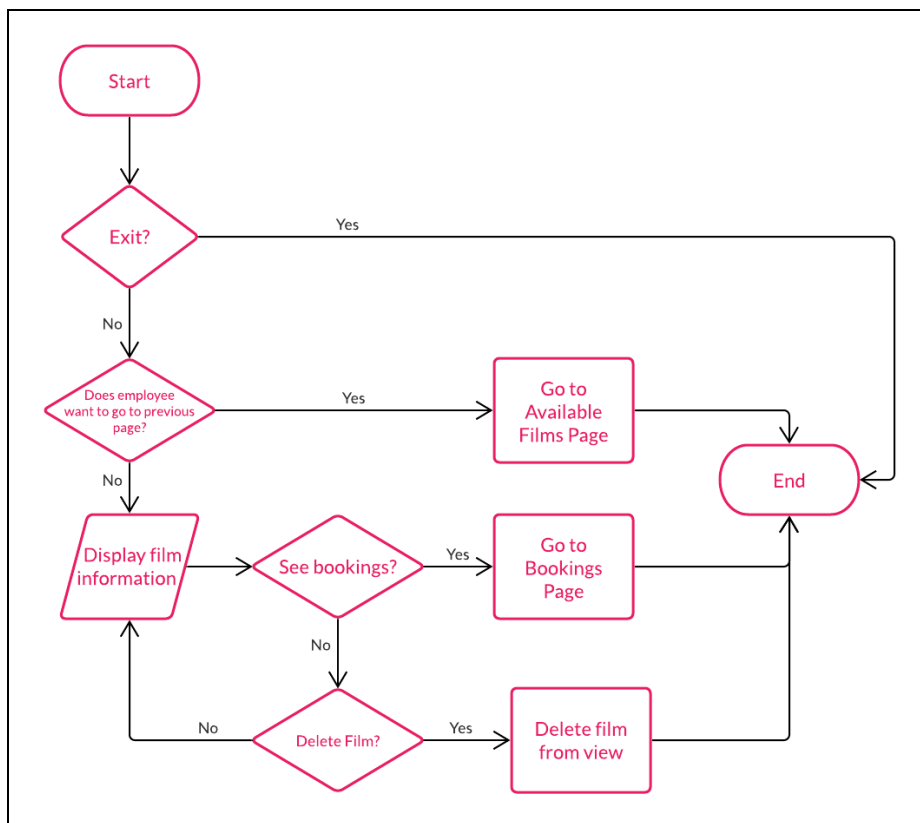
a photo, show dates and times, ratings, trailer, title and description. From here my client can also go to the previous and home page, and also “see all films” (see Appendix B.1.9).

B.1.2.10 Version 10: Available Films Page



The tenth version depicts a wireframe similar to the user home page and also has a similar function (see Appendix B.1.10).

B.1.2.11 Version 11: Employee Film Page

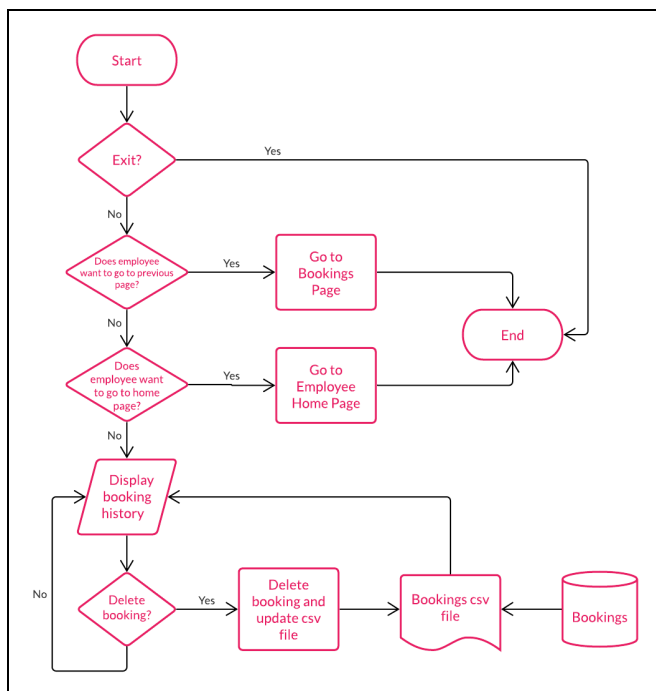
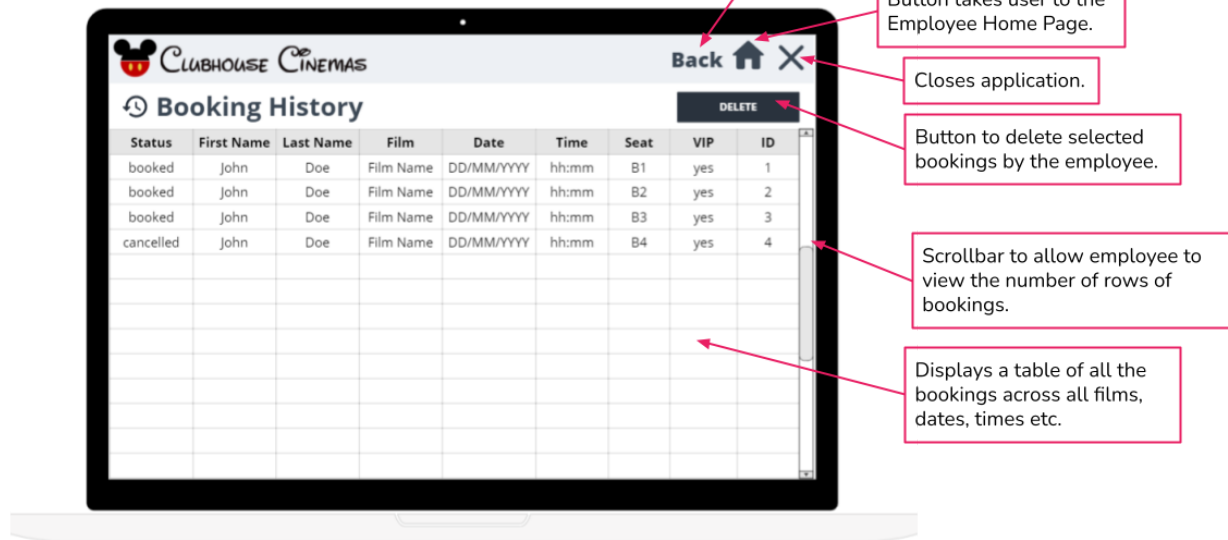


458 words

The eleventh version displays a similar format to the film page, giving the employee an insight into the film they want to either delete or view the bookings for (see Appendix B.1.11).

B.1.2.12 Version 12: Booking History Page

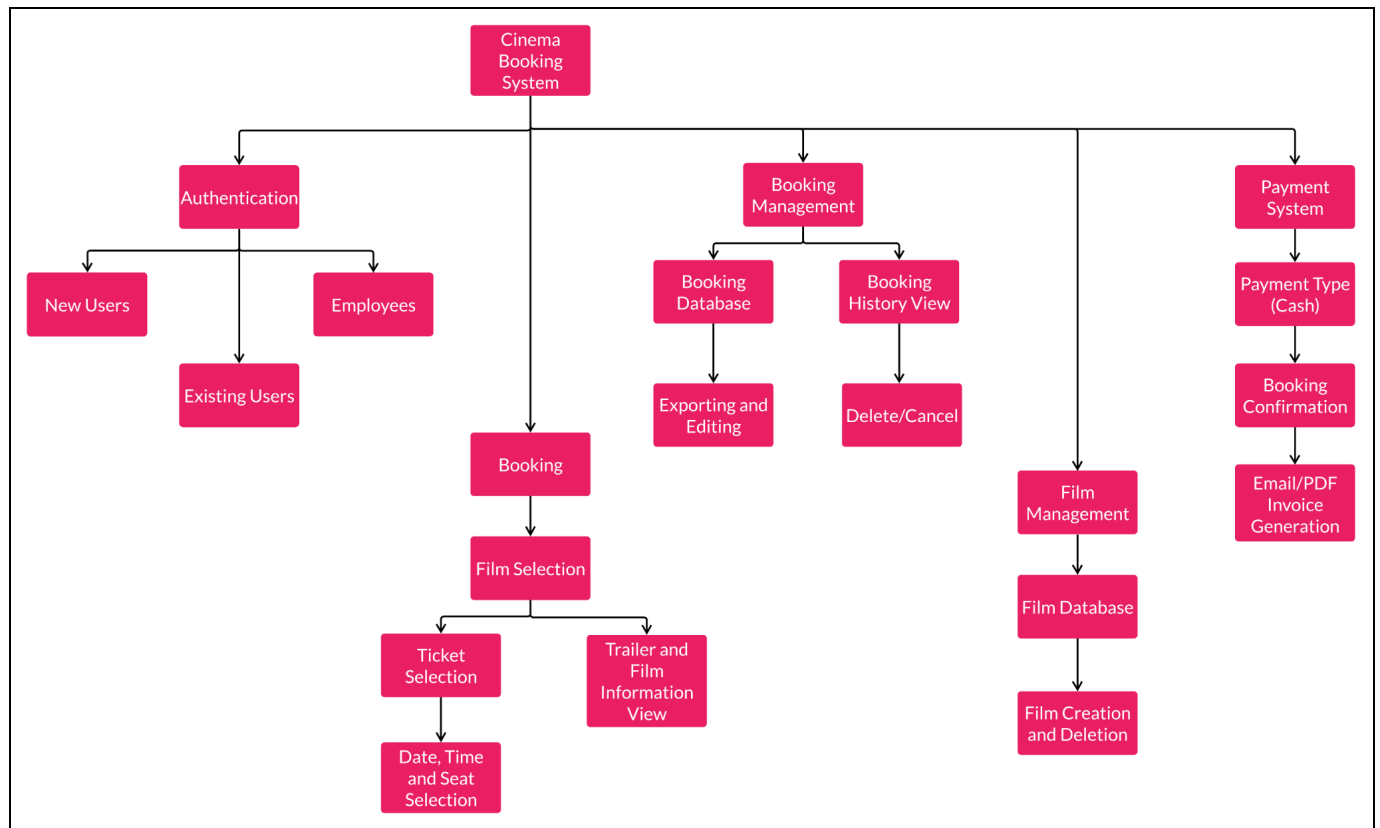
This is the Booking History Page from which the employee can see all the bookings and respective details in a tabular format.



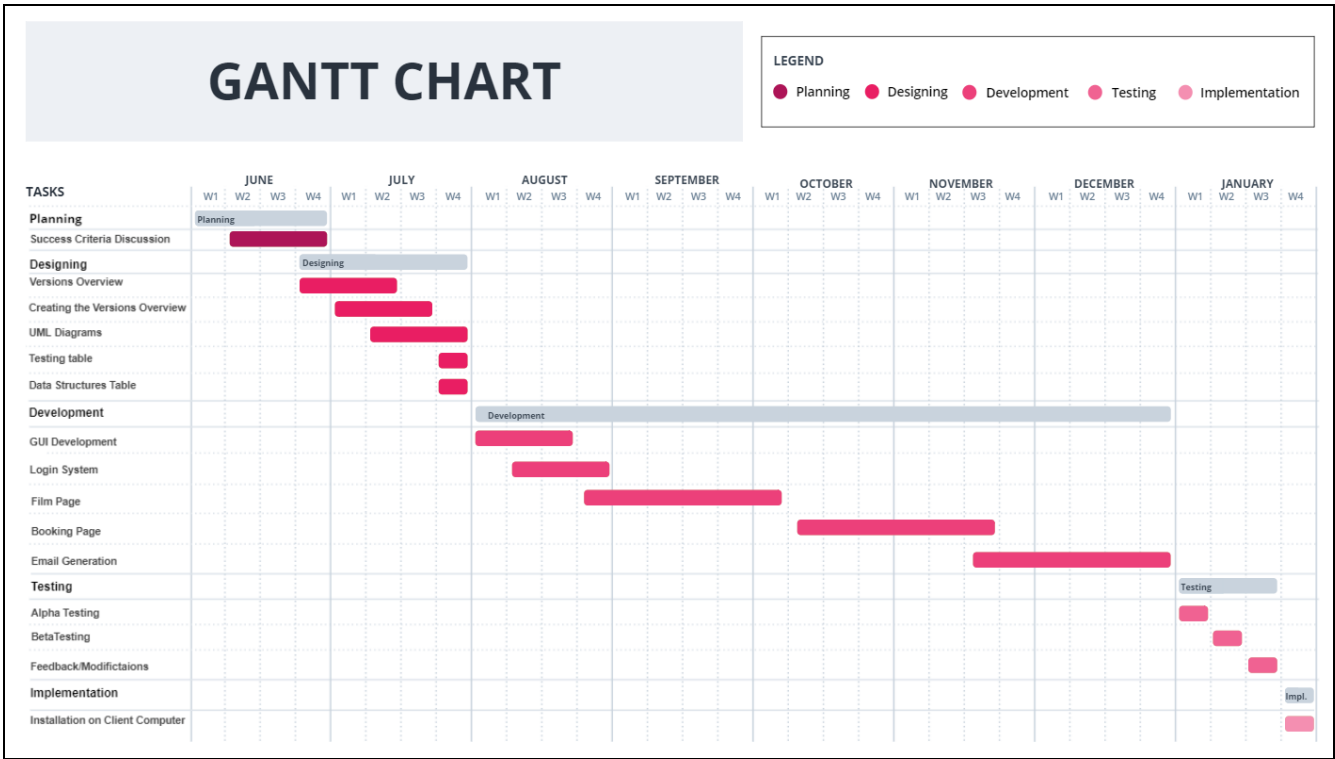
The thirteenth and final version details a tabular format of the booking history formed from users of the system. It contains a series of deletable rows, split by labelled columns (see Appendix B.1.12).

B.2 UML Diagrams

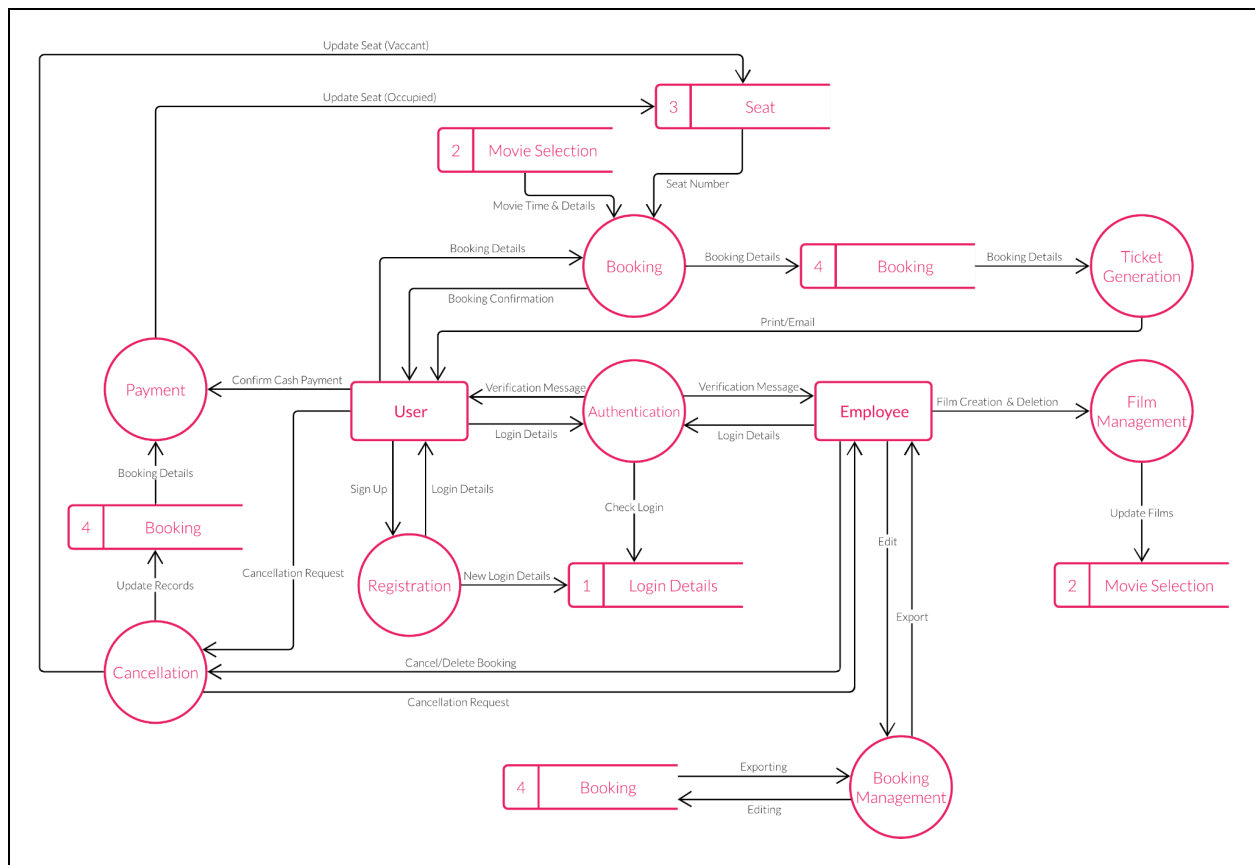
B.2.1 Structure Chart



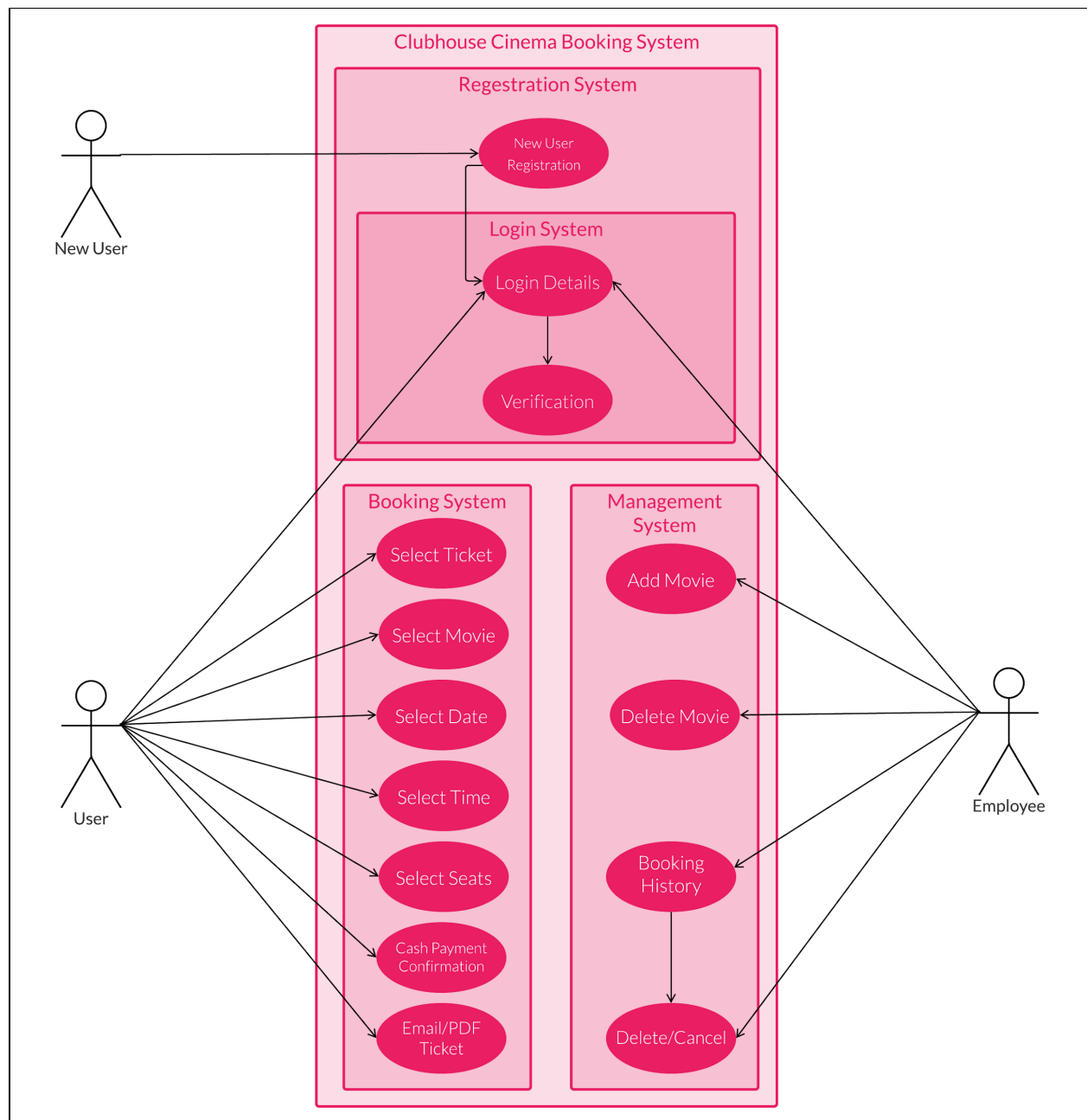
B.2.2 Gantt Chart



B.2.3 Data Flow Diagram

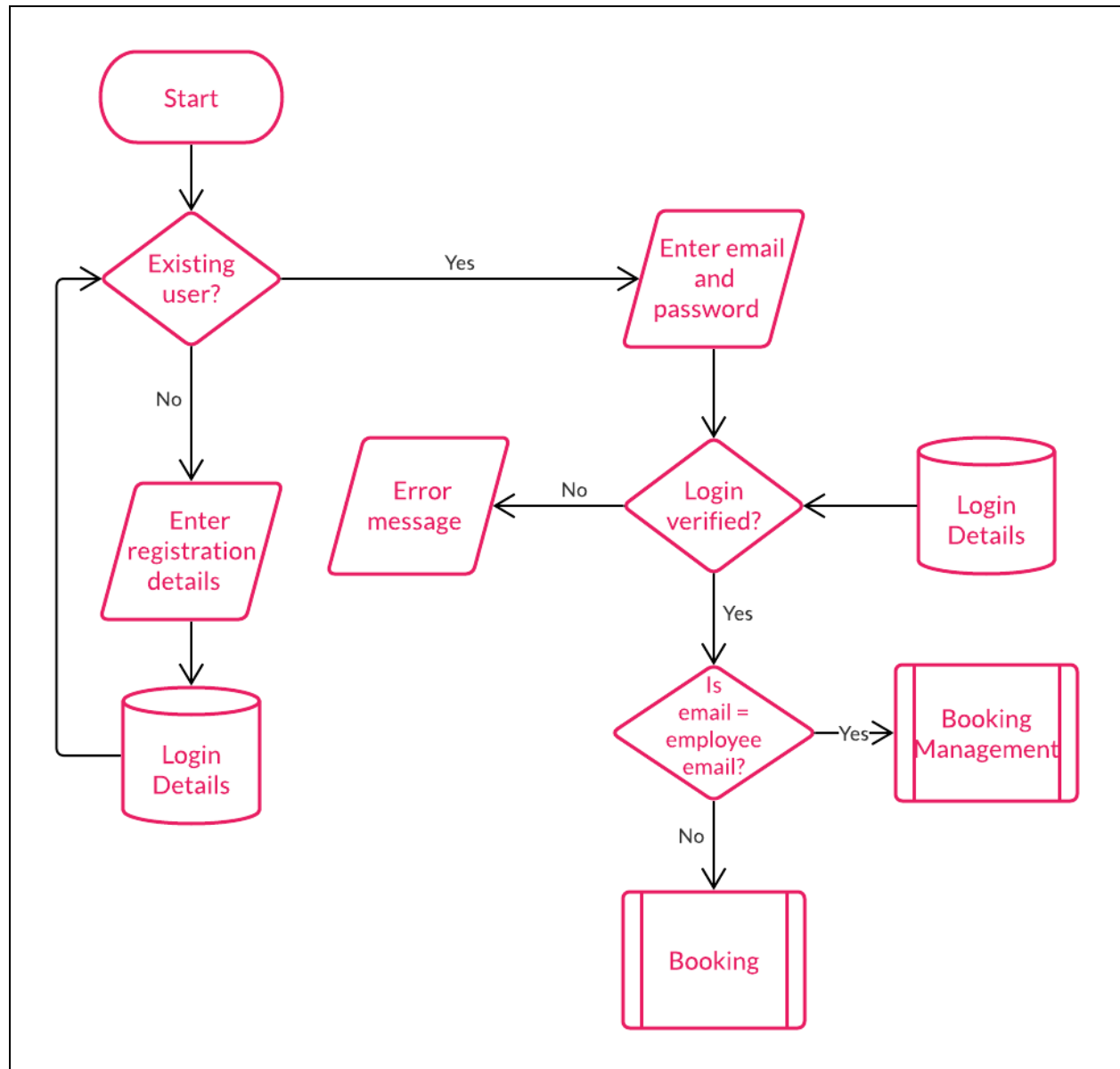


B.2.4 Use Case Diagram

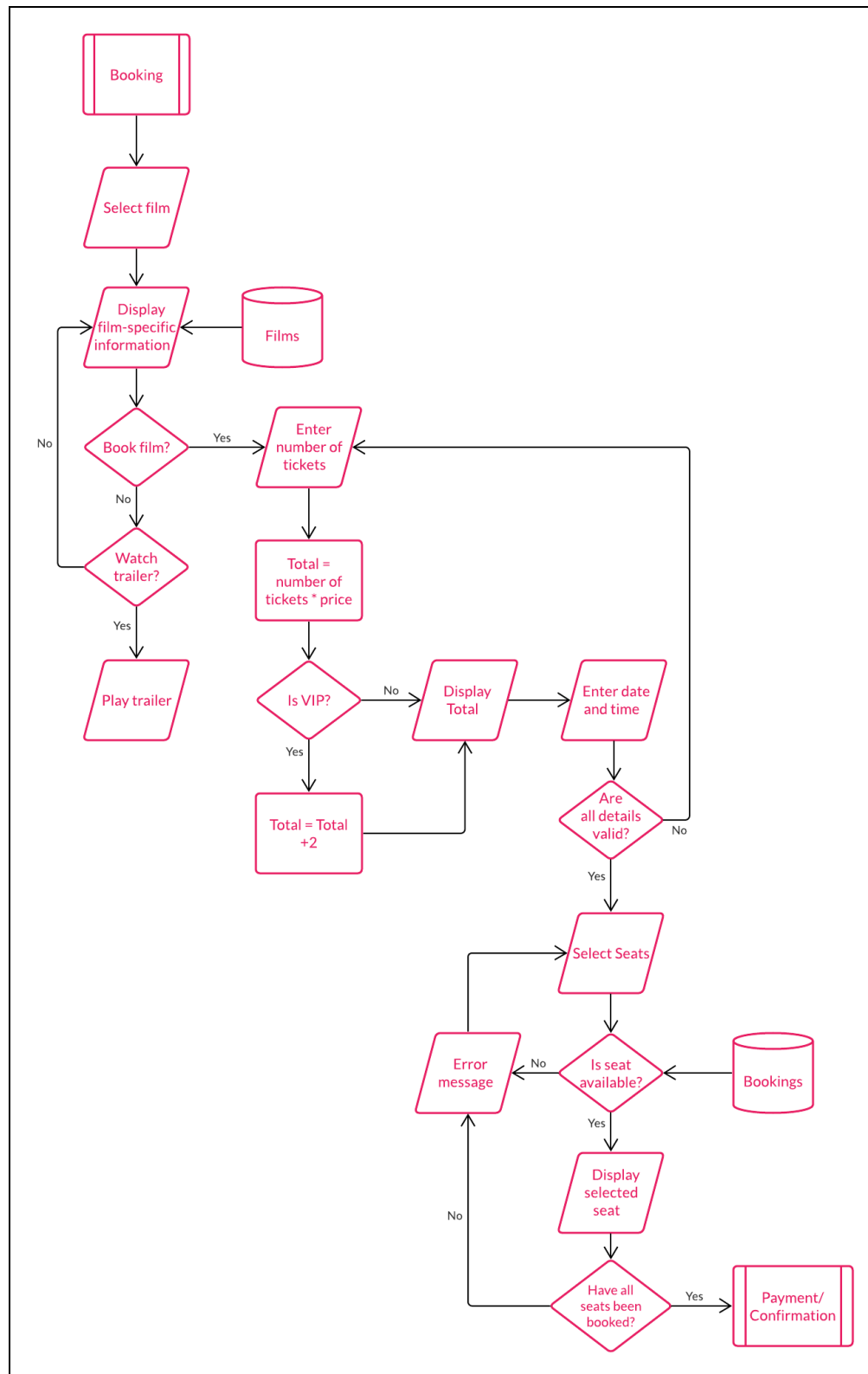


B.2.5 Application Flowcharts

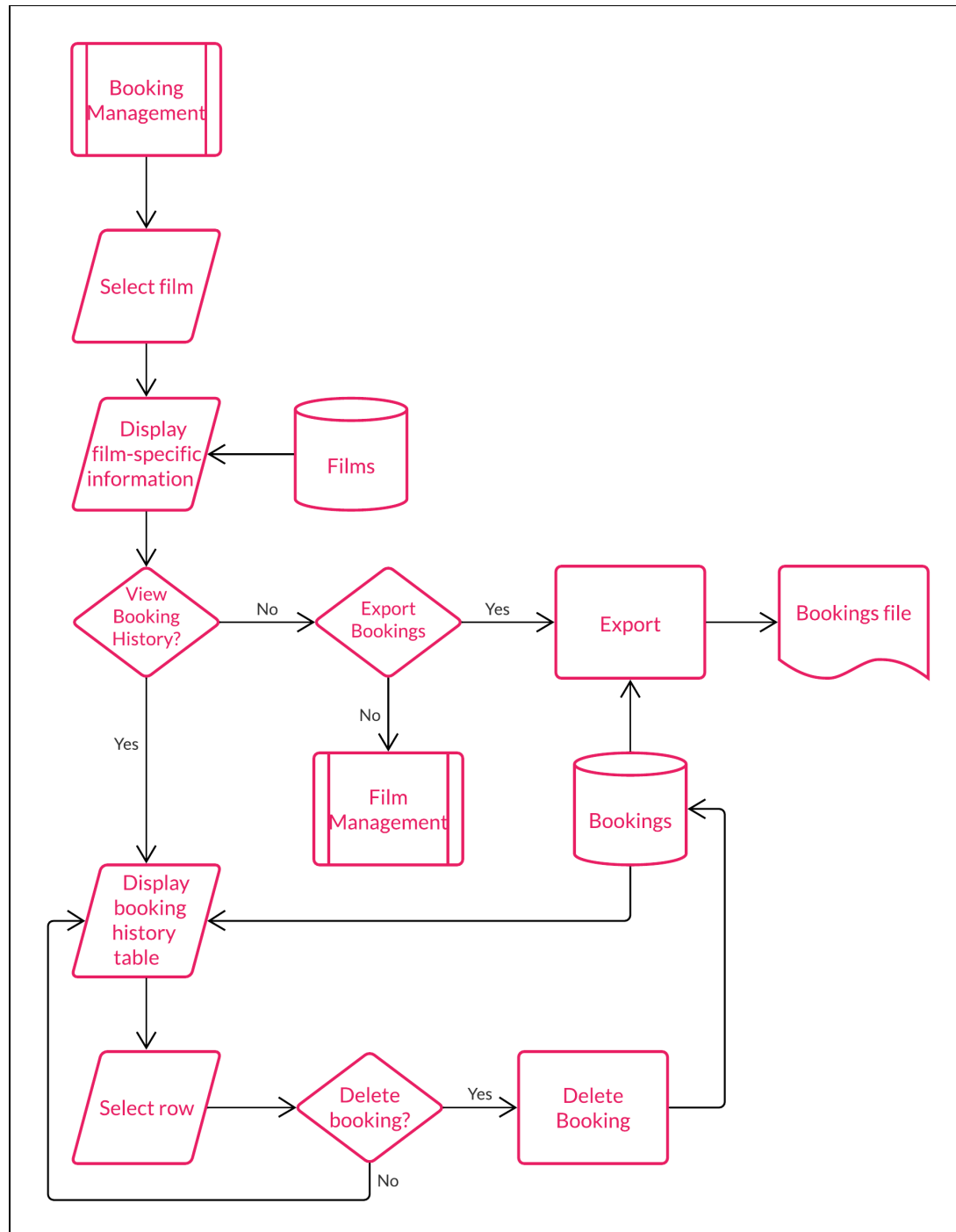
B.2.5.1 Authentication



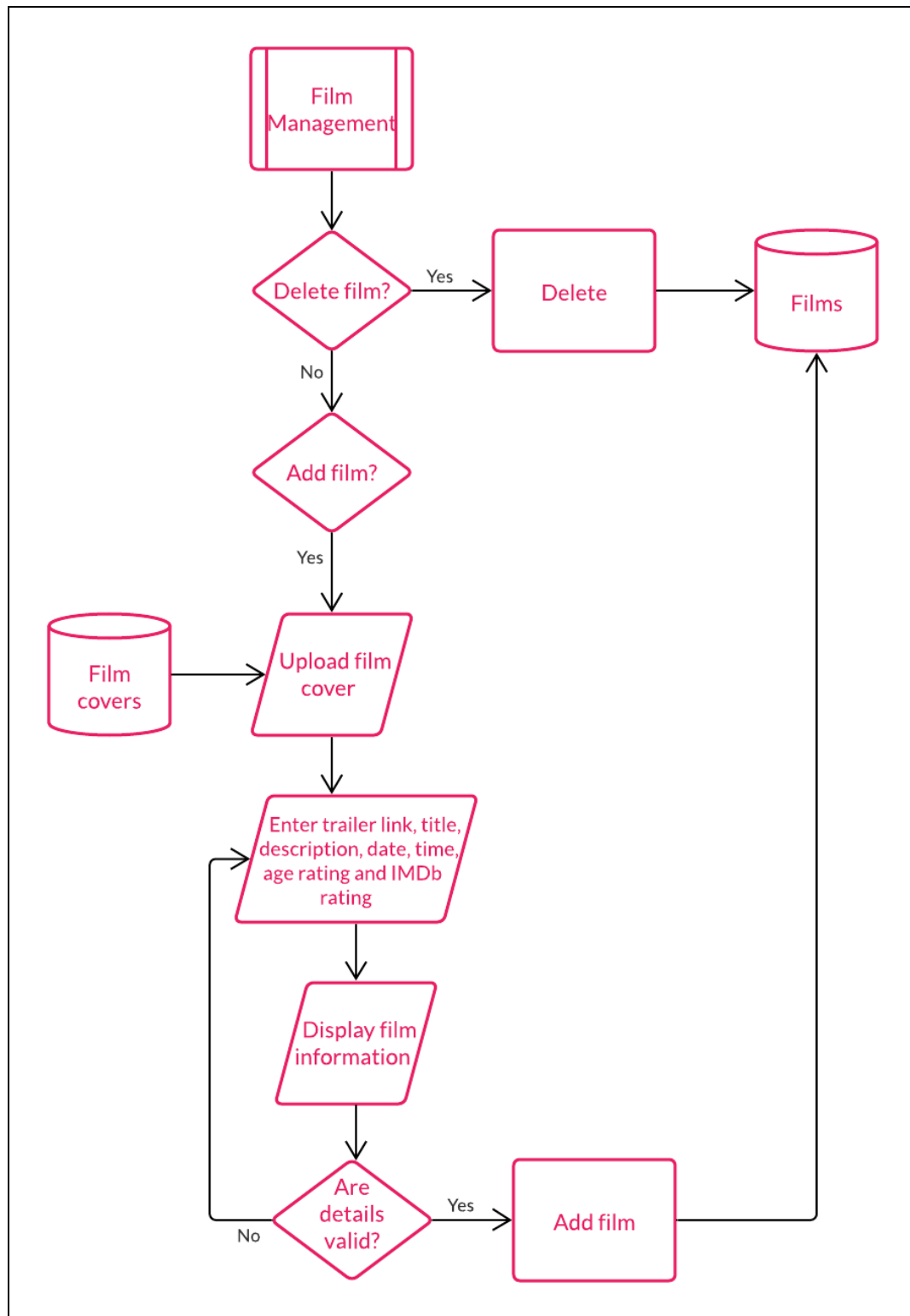
B.2.5.2 Booking



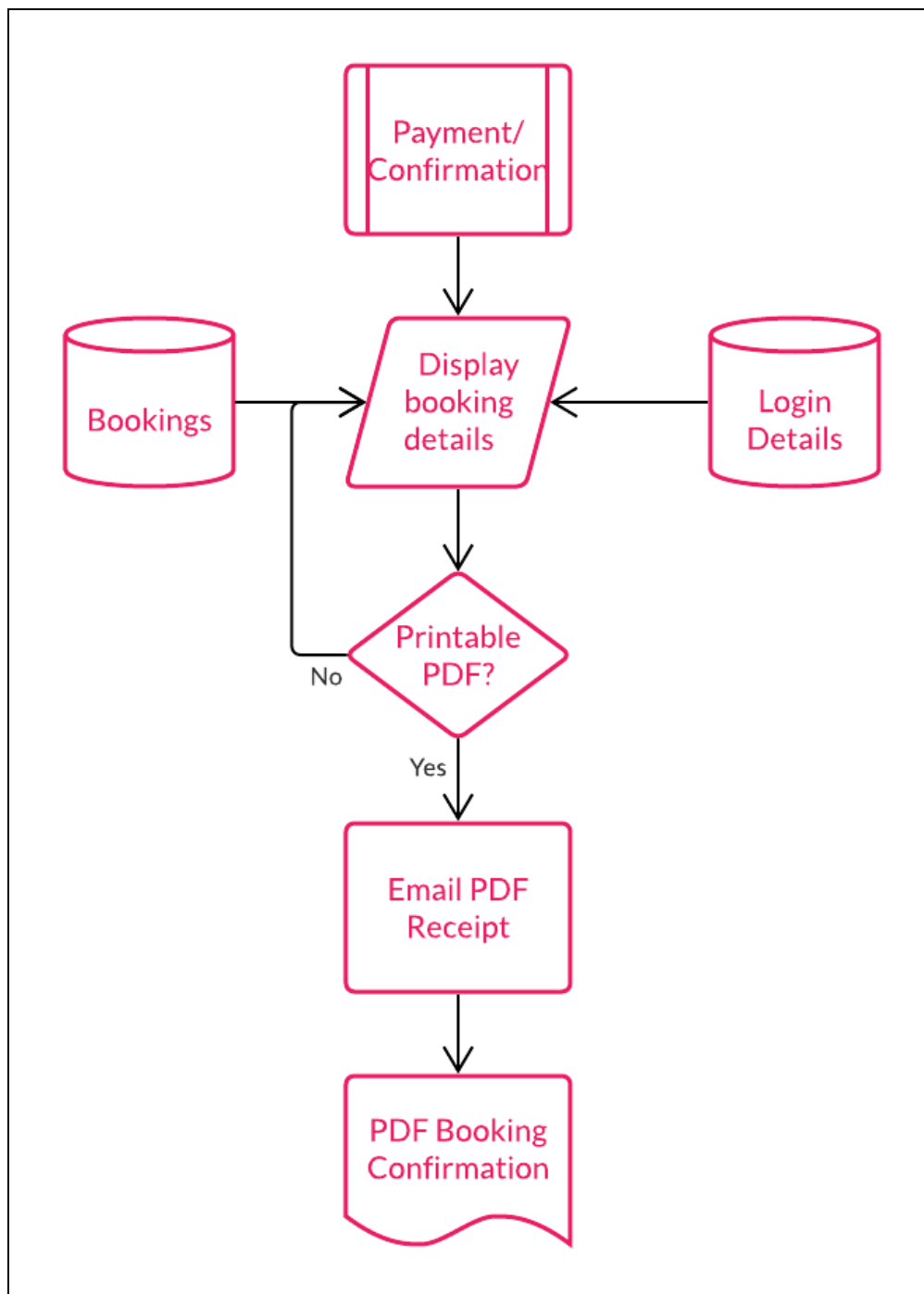
B.2.5.3 Booking Management



B.2.5.4 Film Management



B.2.5.5 Payment/Confirmation



B.3 Data Structures Table

Name	Type	Purpose
name	String	Stores the registration name of the user who is signing up for an account.
email	String	Stores the email address to which the PDF booking confirmation will be sent.
seat_id	String	Stores the seat identification of the seat to be booked by the user, for example, "A1".
row	String	Stores the letters of the cinema rows, to be concatenated with the number.
number	Integer	Stores the number of the cinema column, which coincides with the rows.
screen	Integer	Stores on which screen the movie is being shown.
total_cost	Integer	Stores the final cost of the booking after all added expenses have been confirmed.
running_total	Integer	Stores the frequently updated price when the user adds tickets to the booking.
title	String	Stores the name of the film to be booked.
imdb_rating	float	Stores the IMDD rating (movie rating) out of 10 which is entered by the employee and displayed on the film information page.
age_rating	String	Stores the age rating of the film, which can be one of U, PG, 12A, 15 or 18. Also to be displayed on the film information page.
description	String	Stores the synopsis of the film, which is entered by the employee and displayed on the film information page.
startDate endDate	String	Stores the date on which the movie will be showing from and to. This information is necessary for the booking of films in the application.

times	List	Stores an array of the showtimes for the film to be booked.
password	String	Stores the login password the user needs to access their account.
"confirmation.pdf" or similar	PDF file	A file that contains a receipt of the booking confirmation, to be emailed to the user.
isVip	Boolean	Stores whether the user wants VIP or standard seats. If true £2 is added to the total.
employee_email	String	Stores the employee email, which is needed to access the management side of the application. For example, "mickeymouse@clubhousecinemas.co.uk"
employee_pswd	String	Stores the employee password, which is needed to access the management side of the application.
seatsList	List	Stores an array of all the seats in the cinema for the film.
selectedSeats bookedSeats availableSeats	List	Stores an array of the seats selected by the user, in the seat booking process. Stores an array of all the booked seats (seats which the user cannot book). Stores an array of all the seats which can be selected by the user. The length of these lists will also determine how many seats have been booked and are available.
booked	Boolean	Stores a "TRUE" or "FALSE" value determining whether a seat is booked/selected or not.
"bookings.txt"	TXT file	A file that contains all the bookings made. It can be edited and exported from the system.
userTime	String	Stores the time the user wants to book a film for.
userDate	String	Stores the date the user wants to book a film for.
status	String	Stores the status of the user booking of whether it is "booked" or "cancelled".

idNumber	String	Stores a unique reference number for the booking. For example: "CLUBH4576".
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B.4 Test Plan

Test ID Number	Success Criteria Number	Test Description	Sample Input	Expected Output
1	1.1-1.4	User or Employee will be able to input the correct username and passwords in the text fields. For it to be verified by the application.	Enter email: "johndoe@gmail.com" Enter password: "Password145"	"Login successful" The program will transition to their respective home pages depending on the login.
2			Enter email: "mickeymouse@clubhousecinemas.com" Enter password: "Clu8h0us3"	
3	1.5	User or employee will be given an error message if the details entered are incorrect.	Enter email: "johndoe@gmail.com" Enter password: "Password145"	"Incorrect email or password. Please try again" The program will prompt both users the same regardless of their status.
4			Enter email: "mickeymouse@clubhousecinemas.com" Enter password: "Clu8h0us3"	
5	2.1	Users will be able to create login details and enter them into the corresponding text fields, they will be saved to the system for later use.	Enter name: "John Doe" Enter email: "johndoe@gmail.com" Enter password: "Password145"	"Registration successful" The program will verify the format of the email and password like the login stages.
6	3.1	Users will be able to view all of the available films to watch.	No inputs	Display clickable film covers on scroll pane
7	3.2	Users will be	User clicks on film cover	Display Film Page

		able to click on a film to see the description of the film, the dates and times it is shown, and the trailer of the film.		The program will play the trailer if the trailer button is clicked.
8	3.3	Three clickable buttons will be displayed taking the user to: "All films", "Back", and "Book now".	User clicks "Home" icon	The program will transition to the view of all available films.
9			User clicks "Back" button	The program will transition to the previous page.
10			User clicks "Book Now" button	The program will transition to the booking page.
11	4.1	User will enter the number of tickets they require and if it is VIP or not.	Enter number of adult tickets: "2" Enter number of child tickets: "0" Enter number of senior tickets: "0" VIP? "No"	"Total: £17:00"
12			Enter number of adult tickets: "2" Enter number of child tickets: "0" Enter number of senior tickets: "0" VIP? "Yes"	"Total: £19:00" The program will add £2 to the total if the tickets are VIP.
13	4.2	Once the user has entered a minimum of 1 ticket they will	Display seating plan User clicks seats they want	Highlight selected seats green "Seats: A1, A2"

		get the option of selecting their seats.		
14	4.3	The number of seats the user has selected does not correspond with the number of seats to be paid for.	User selects incorrect number of seats. (Number of seats \neq Number of tickets)	"Invalid entry. Please select correct amount of seats."
15	4.4	The number of seats the user has selected corresponds with the number of seats to be paid for.	User selects correct number of seats. (Number of seats = Number of tickets)	Display "Pay" button. The program will transition the user to the confirmation page.
16	4.5-4.6	The payment method of cash is preselected and the confirmation page is displayed.	No inputs	User Details: "Name: John Doe" "Email: johndoe@gmail.com" Film Details: "Date & Time: 17/06/21 @17:00" "Screen: 2" "Seats: A1, A2" "Film Name" "Adult: 2" "Child: 0" "Senior: 0" "VIP? Yes" "Total: £19.00"
17		The booking confirmation is emailed to the user containing a printable PDF document.	Email button is clicked	The program will email the user a PDF document of the booking confirmation.
18	4.7	The user decides	Exit button is clicked on	The program will exit

		to not go through with the booking.	the seat booking page	the seat booking page meaning the booking is cancelled and not confirmed on the system.
19	5.1	Employee will be able to manage the films on show at the cinema.	"Manage films" is selected	The program will transition the user to the management page.
20	5.2	Employee will be able to add films to the available films at the cinema.	"Upload Image" "Trailer: link for trailer" "Title: Avengers" "Description: Superheroes band together to fight an evil threat." "From: 17/06/21" "To: 01/07/21" "Times: 17:00, 19:00" "Add film" is clicked	"Film has been added." The program will verify the format of the data entries: "Error. Please complete all fields."
21	5.3	Employee will be able to delete films from the available films at the cinema.	Select film to delete "Delete film" is clicked	"Film deleted." The program will remove the film from the employee page and user page.
22	5.4	Employee can manage the bookings done by users on the application.	"Manage bookings" is selected	The program will transition the user to the booking management page.
23		Employee can delete old bookings from the booking file.	Old booking is selected "Delete" button is clicked	"Booking deleted"
24		Employee can export the booking file.	"Export bookings" button is clicked	The program will generate a CSV file for the employee. "bookings.csv"

458 words