System Analysis and Design – ITSE 1380

CINEMA TICKETING SYSTEM

PROJECT REPORT

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Abstract

This project offers a solution to a cinema ticketing system. It facilitates employees in common tasks and provides insight information. It is a website that allows customers to check movie show times, cinema information, newly released movies, and allows members to book tickets online.

Acknowledgements

We thank our instructors, Mr. Huy Nguyen and Mr. Liem Ha, for their guidance.

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Planning phase

Feasibility Study

Technical Feasibility

Criteria	Advantage	Disadvantage
Familiarity with the application	The users are familiar with the functions of a movie ticket booking system.	Several similar systems have already been built.
Familiarity with the technology	The developers are familiar with the project's technologies.	-
Project size	-	CMS has a smaller size than established systems of the same type. There are only 2 developers.
Compatibility	The company's existing communications infrastructure matches the project's requirements.	-

Table 1: Technical Feasibility

Economic Feasibility

Estimated break-even point is 2 years since establishment.

Organizational Feasibility

The system is predicted to be accepted by its users and incorporated into the ongoing operations of the organization.

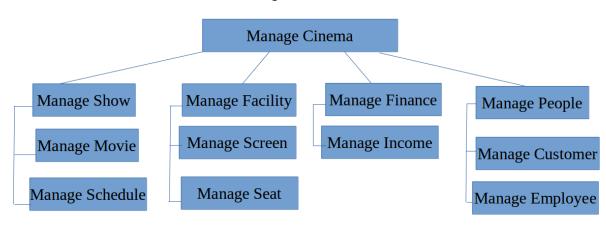
Project Plan (using Gantt Chart)

(view PDF file or project file)

Analysis phase

Business Flow Diagram

Figure 1: BFD



Requirements Determination

Functional requirements:

1 Search and browse

- **1.1** The system will allow users to browse movies by predefined categories.
- **1.2** The system will allow users to search for movies by title, main cast, director and genre.
- **1.3** The system will allow users to watch trailer(s) of a movie selection.
- **1.4** The system will allow members to add movie selections to their favorite list.

2 Read and Comment

- **2.1** The system will allow members to post comments to showing movies.
- **2.2** The system will allow members to read and see related news.
- **2.3** The system will allow members to post comments on articles.

3 Book tickets

- **3.1** The system will enable the members to specify the movie choice and seat selection(s) to purchase ticket(s).
- **3.2** The system will allow members to view their booking history.

4 Manage account information

- **4.1** The system will enable the user to create an account (if desired) that will store user data and booking information.
- **4.2** The system will allow members to view and update their personal information.
- **4.3** The system will allow members to change their password or request a password reset.

5 Promote

5.1 Based on the member's previous bookings and favorite list, movie recommendations will be generated and displayed on future visits to the web site.

6 Sell and reserve tickets (for moderators)

- **6.1** The system will allow the moderator to reserve tickets and cancel reservations within permitted time.
- **6.2** The system will allow the moderator to print tickets for unfinished sessions.

7 Manage

- **7.1** The system will provide a control panel for administrators to manage accounts, user interactions, movie information, sessions, news, pricing and system maintenance.
- **7.2** The system will allow moderators to hide offending comments and submit a report to the administrators on the member who violates the rules.

8 Reports (visible to administrators only)

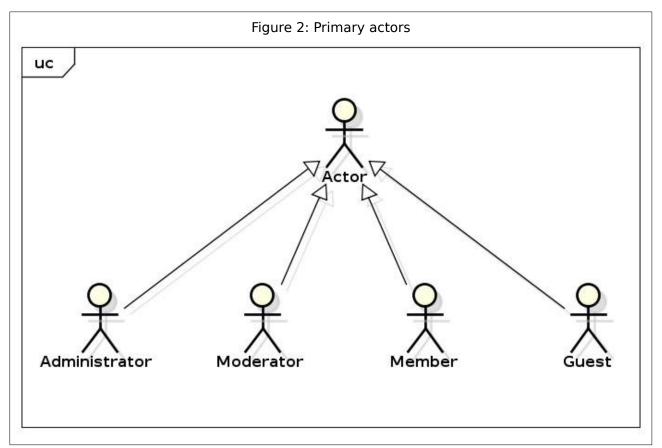
8.1 The system will provide the administrator with different types of income report (daily, weekly, monthly, based on movies, based on predefined time slots).

Non-functional requirements:

Non-functional	l Detail		
requirement			
Operational	1. The system can run on hand-held devices.		
	2. The system should be able to work on common Web browsers (Internet		
	Explorer 7 and later, Mozilla Firefox, Google Chrome, Opera, Safari).		
	3. The system must be able to work with different operating systems (i.e., Linux; Windows 7).		
	4. The system must be able to import and export Excel spreadsheets.		
	5. The system must enable real-time database updates.		
Performance	6. Any interaction between the user and the system should not exceed 4 seconds.		
	7. The system supports 400 simultaneous users.		
	8. The system should be available for use 24/7, with the exception of scheduled maintenance.		
	9. Scheduled maintenance shall not exceed one 2-hour period each month. 10. The system will have 99% uptime performance.		
Security	11. Only administrators can view and export insights, only administrators and moderators can print tickets.		
	12. All users logging in will be required to authenticate.		
	13. Secured and encrypted Internet protocols must be used for administering activities.		
	14. Data will be encrypted from the user's computer to the Web site to provide secure ordering.		
	15. The system includes all available safeguards from viruses, worms, Trojan horses, etc.		
Cultural and	16. The system will operate in Vietnamese and English.		
Political	17. Administrators can delete comments, block or deactivate accounts.		
	18. Personal information is protected in compliance with the Data Protection Act.		

Table 2: Non-functional requirements

Use Case Analysis



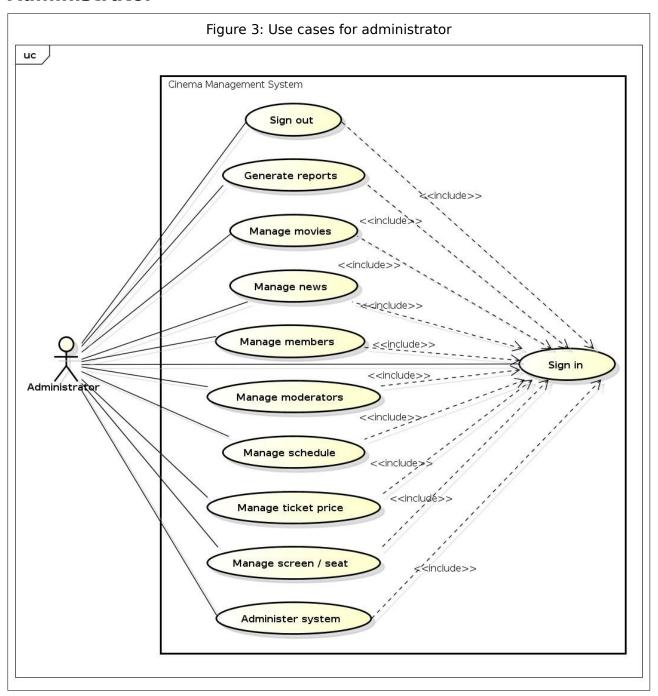
Actor

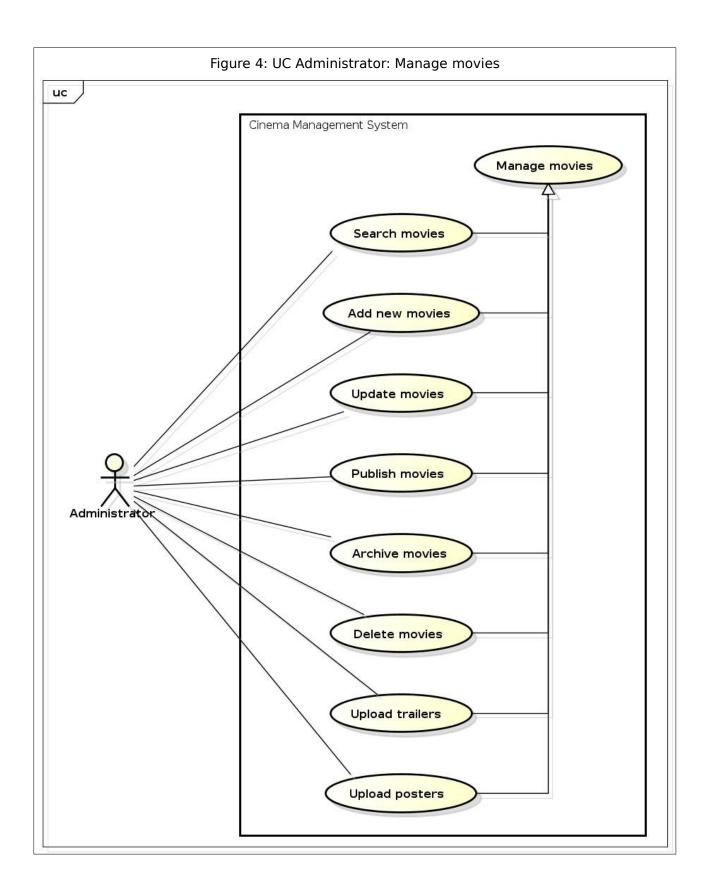
No.	Actor	Description	
1	Administrator	Has all privileges on the system.	
2	Moderator	Has the privileges on ticket-related matters, can hide comments and submit reports on members.	
3	Member	Is the main actor who comes to the web site to browse movies/news and purchase tickets online.	
4	Guest	Has similar privileges to those of a member, except for purchasing tickets online and adding movies to favorite list.	

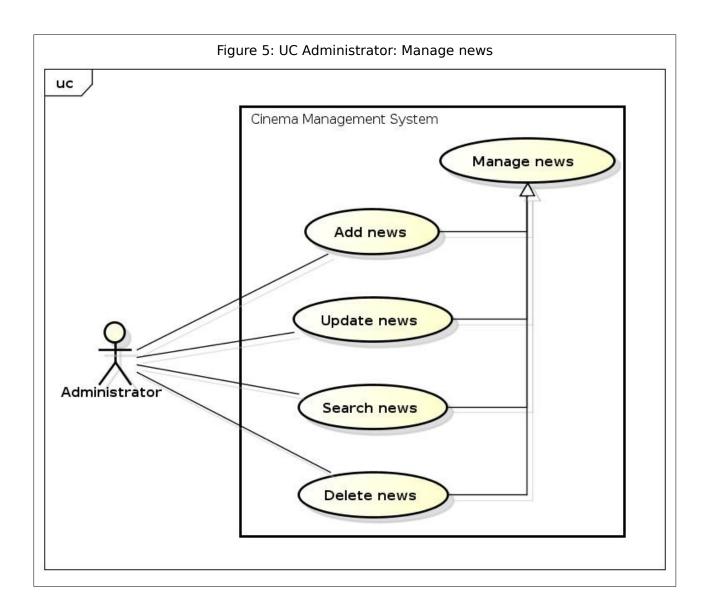
Table 3: Description of primary actors

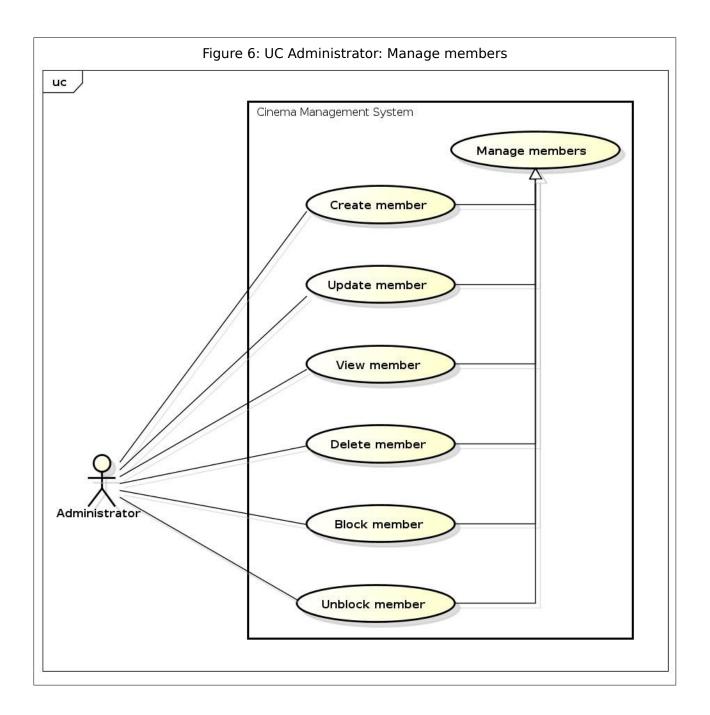
Use case diagram

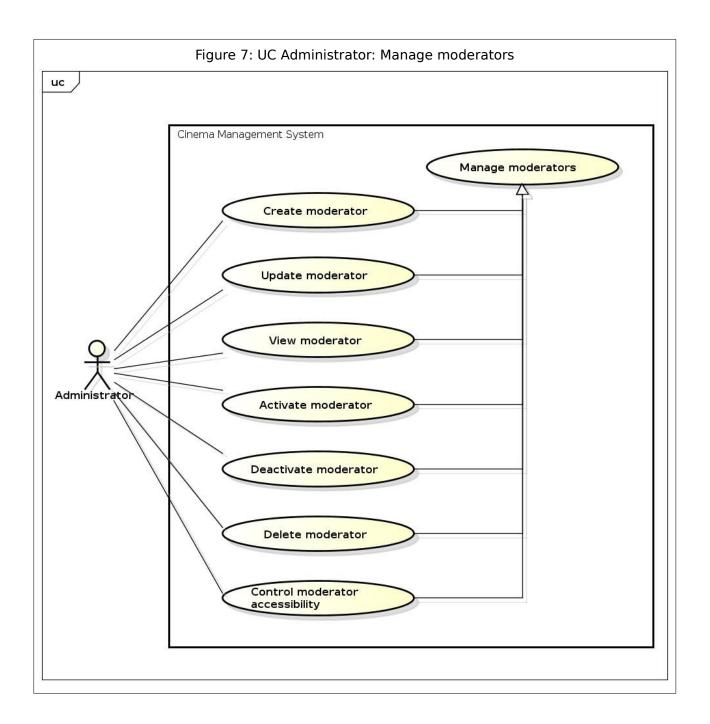
Administrator

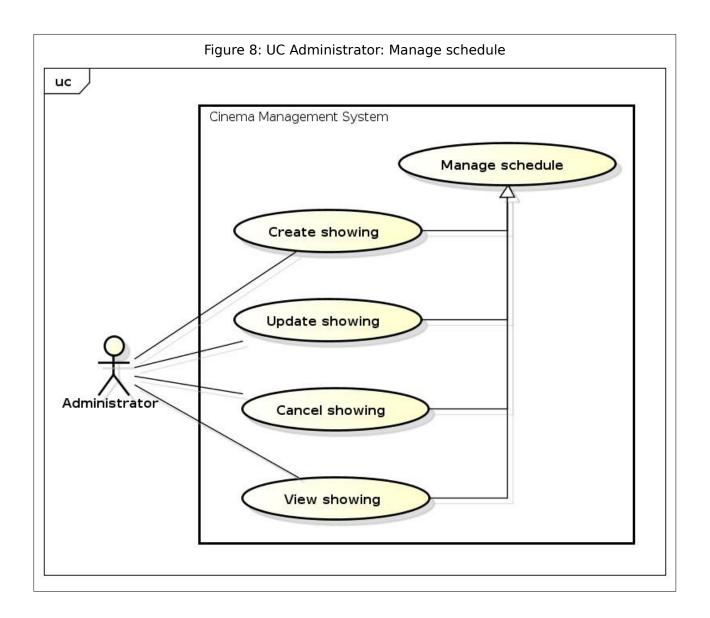


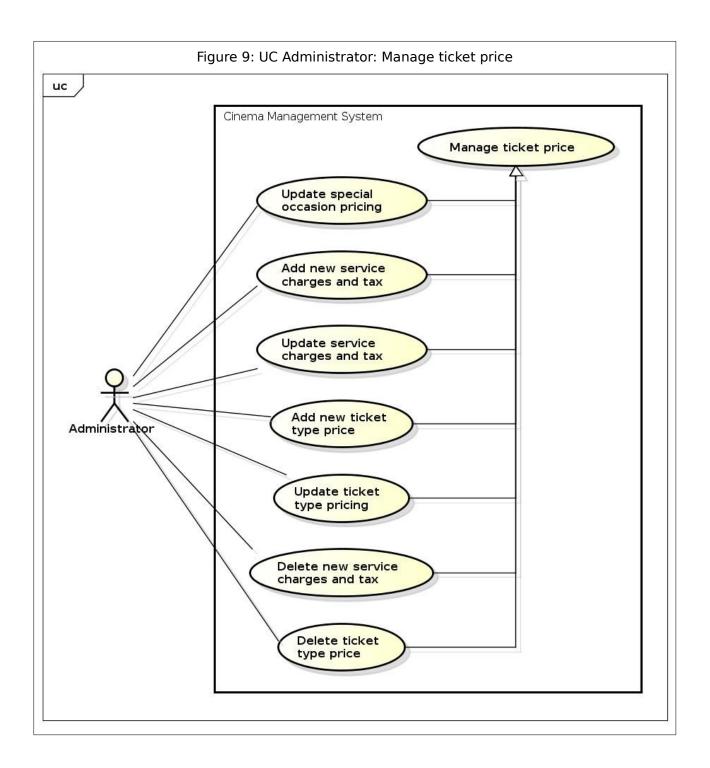


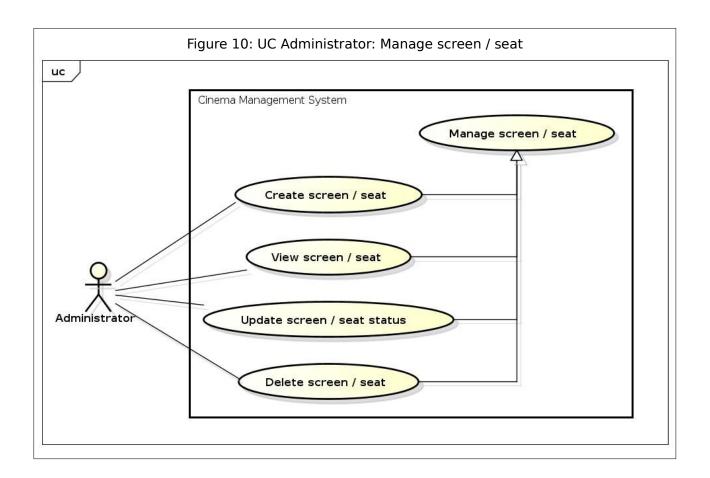


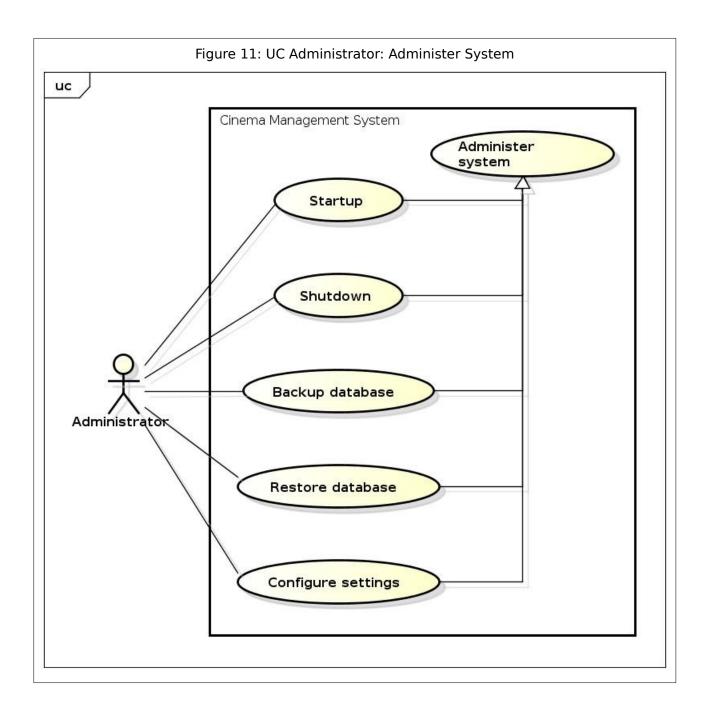




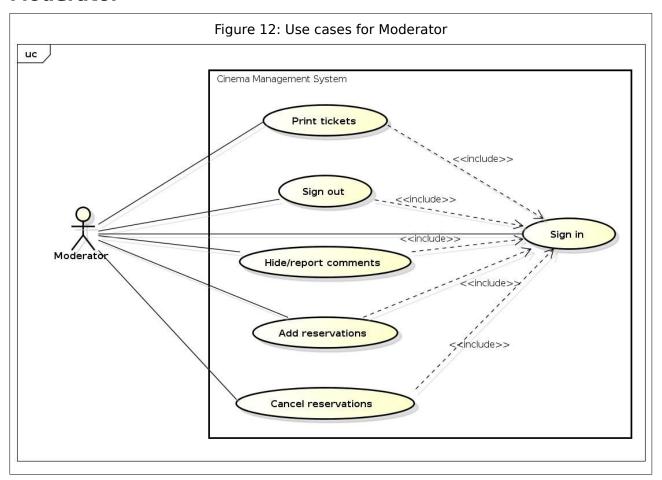




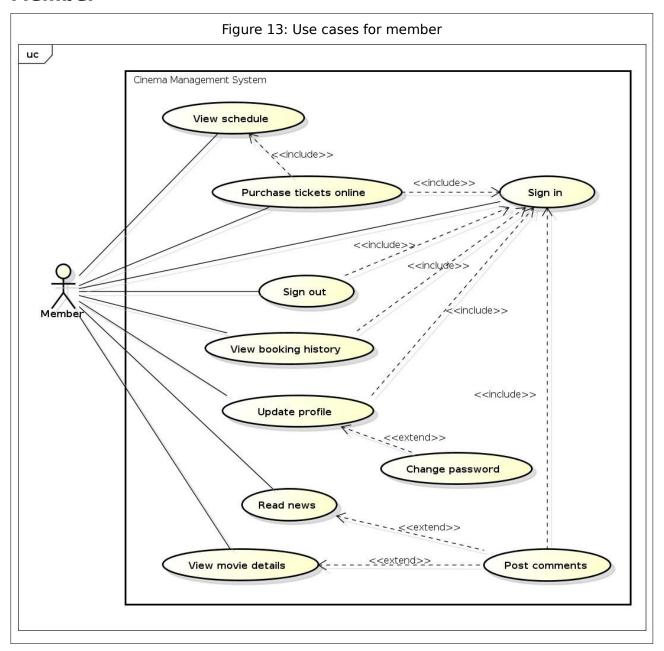


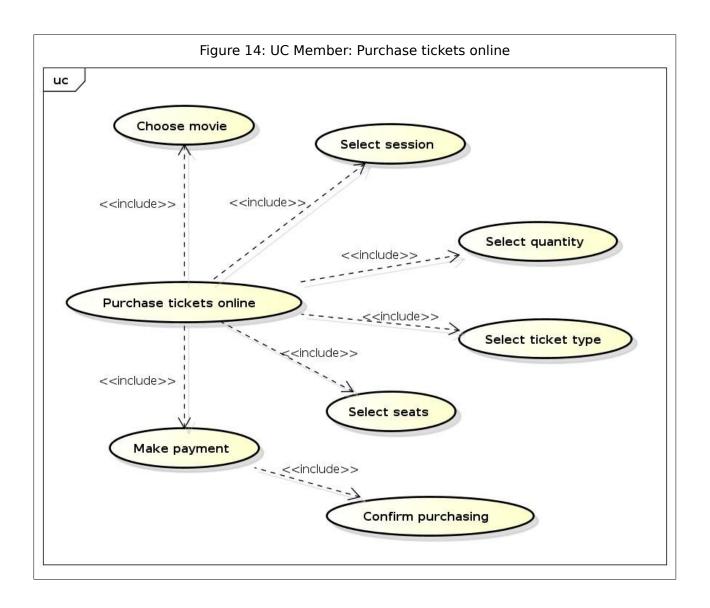


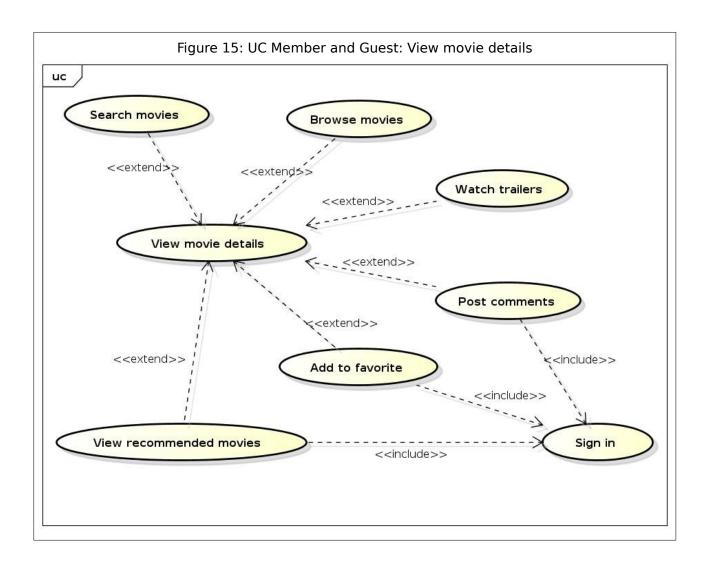
Moderator



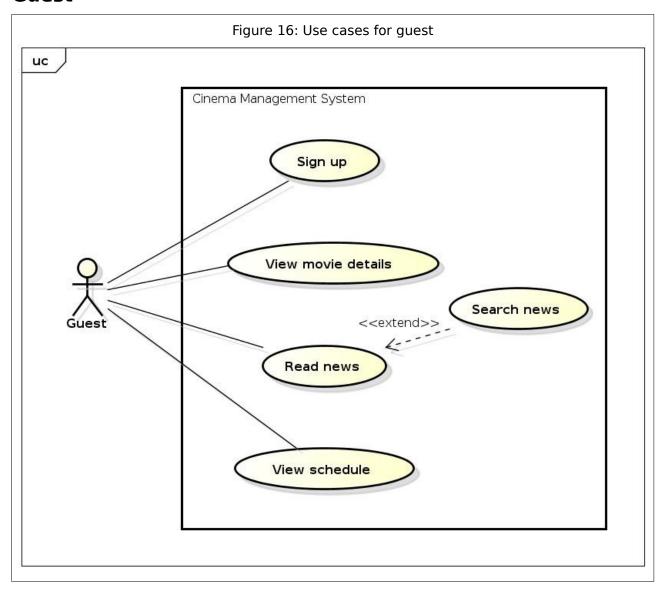
Member







Guest



Use case specification

List of available use case specifications:

- 1. Add new movie
- 2. Update Movie
- 3. Delete Movie
- 4. View showing
- 5. Add screen
- 6. Update screen
- 7. Delete screen
- 8. Add moderator
- 9. Delete moderator
- 10. Update Moderator
- 11. Search
- 12. Add FAQ
- 13. Update FAQ
- 14. Delete FAQ
- 15. Add schedule
- 16. Update schedule
- 17. Delete schedule
- 18. Block member
- 19. Add showing room
- 20. Update showing room
- 21. Delete showing room
- 22. Search movie
- 23. Create account
- 24. Book ticket
- 25. View purchased history
- 26. Update profile
- 27. Change password
- 28. View movie detail

Use Case Name: Add new movie ID	: Priority:			
Actor: Administrator				
Description: The use case describe how the adminis	trator add new movie			
Trigger:				
Type:				
Pre-conditions:				
1 Movie datastore is available on-line				
2 Poster datastore is available on-line				
Normal Course:	Information for Steps:			
1. Administrator specify the movie's information •	-movie title, movie summary, movie			
by filling the form and then submit.	description, movie duration, movie			
	cast list,movie director, movie age			
2. When movie added successfully, the new movie	rate.			
will be stored in movie database and the				
system will display successful notification.	-Notification			
3. The administrator will be asked to upload the				
poster for the new movie.	-posters.			
4. For each poster uploaded successfully, the new	NI (°C° (°			
poster will be stored in poster database and the -Notification				
system will notify the administrator .				
Post-conditions:				
New movie is stored				
New poster is stored				
Summary Source Ou	utnuts Destination			

Use	e Case Name: Update Movie	ID:	Priotity:
Ac	tor: Administrator		
De	scription		
Tri	gger:		
Ty	pe:		
Pre	e-conditions:		
1.	The admin is authenticated		
2.	The movie database is available on-line		
No	rmal Course:	Information	on for Steps:
1	To update the movie, the admin click on the	Mov	ie Id
	movie title link to transmit movie id.		
2	The system will search and display all existing	g Exis	ting movie information
	movie information of inputted id in movie		
	database and the admin can modify it.		
3	The admin can modify new information or		information
	change the status of the movie and submit it to)	
_	the system	_	
4	When all information is valid, the system will	Succ	essfully updating notification
	show successful notification and new movie		
	information of the input id in movie database		
	will be updated.		

Post-conditions: 1. The selected movie in the database will be updated . Summary Inputs Source Outputs Destination

Use Case Name: Delete Movie	ID:	Priotity:
Actor: Administrator		
Description		
Trigger:		
Type:		
Pre-conditions:		

- **1.** The admin is authenticated
- **2**. The movie database is available on-line

Normal Course:

- **1.** To delete the movie, the admin click on checkboxes in the list of movie to transmit the list of movie Id he/she want to delete.
- **2.** The system will search and delete one by one movie in movie database.
- **3.** If there is any movie that's showed already, **•** the system won't let the admin to delete and show unsuccessful notification.
- **4.** If theses movie haven't showed yet, the system will allow the admin to delete and display the successfully deleting notification.

Information for Steps:

Movie Ids

Existing movies

Unsuccessfully deleting notification

Successfully deleting notification

Post-conditions:

1. The movie in the database will be deleted.

Summary

Summary				
	Inputs	Source	Outputs	Destination

Use Case Name: View showing	ID:	Priotity:		
Actor: Administrator	Actor: Administrator			
Description: the use case describe how to check room status				
Trigger:				
Type:				
Pre-conditions:				

- 1. Schedule datastore is available online
- 2. Room-Movie datastore is available on-line
- 3. Seats datastore is available on-line
- 4. Ticket datastore is available on-line

Norm	al Course:	Information for Steps:			
1.	The system will require the admin to select the showing movie in the combo box to transmit the movie id.	Movie Id			
2.	The system will check the existing room that show the selected movie in Movie-Room database and show the list of showing Room in combo box for this movie	List of Showing Room			
		Showing Room Id			
3.	The system will continue requiring the admin to select the showing room for				
	selected movie.	List of schedules			
4.	The system will check existing schedules •				
	of the selected room in Schedule database and show the list of schedules.	Schedule Id			
5.	The system will require the admin to select the showing schedule	Map of seats for selected schedule			
6.	The system will display the map of seats of				
	the rooms for that schedule with colored				
	seats.				
Post-c	Post-conditions:				
1	The man of rooms with many status of seats	will be showed			

6. The system will	l display the map of seats	s of•		
the rooms for th	nat schedule with colored			
seats.				
Post-conditions:				
1. The map of rooms with many status of seats will be showed				
Summary				
Innuts	Source	Outputs	Destination	

Description: The use case describe how to add room Trigger: Type:						
Trigger: Type: Pre-conditions: 1. The admin is authenticated 2. The room database is available on-line Normal Course: 1. To add 1 more room, the system requires the admin to input the room information including room name, room type. 2. The system will check if the information is valid or not and check existing room name in room database 3. If room name in database exist already, the system will notify the admin and asked him/ her to change the name 4. After finish creating room, the system will require the admin to create seats for the room. The admin will enter seat codes and each seat code must be unique. 5. When all information is valid, the system will show successful notification and the new room will be stored in room database and its status will be good. Post-conditions:						
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and its status will be good. Post-conditions:						
Post-conditions:						
1. A new room will be stored in database.						
2. New seats will be stored in database.						
Summary						
Inputs Source Outputs Destination						

Use Case Name: Update screen ID: **Priotity: Actor**: Administrator **Description:** The use case describe how to update room Trigger: Type: **Pre-conditions:** 1. The admin is authenticated 2. The room database is available on-line **Normal Course: Information for Steps:** To update the room, the admin click on the Room Id room name link to transmit room id. The system will search and show the existing Existing room information information of selected room in room database. If the admin want to add more seats, he/she function 3 click on function "add seat" and input the seat. existing seat names name. The system will check if the inputted seat successfully seat-adding notification name exists or not in seat database. If the information is valid, the new seat will be stored in seat database of selected room and 1 New information notification will be sent to the admin. The admin can modify new information or Successfully updating notification change the status of the room and submit it to the system When all information is valid, the system will show successful notification and new information of selected room will be stored in room database

Post-conditions:

Use Case Name: Delete screen

1. New information of the chosen room will be updated.

Summary

Inputs Source Outputs Destination	
-----------------------------------	--

ID:

Actor : Administrator			
Description: The use case describe how the admin to delete rooms			
Trigger:			
Type:			
Pre-conditions:			
1. The admin is authenticated			
2. The room database is available on-line			
Normal Course:	Information for Steps:		
1. To delete the room, the admin click on checkboxes in the list of room to transmit the list of movie Id he/she want to delete.	Room Ids		
2. The system will search and delete one by one room in room database.	Existing rooms		
3. If there is any room that's showed any movie already, the system won't let the admin to delete and show unsuccessful	Unsuccessfully deleting notification		
notification.	Successfully deleting notification		

Priotity:

4. If theses rooms haven't showed yet, the system will allow the admin to delete and display the successfully deleting notification.

Post-conditions:

Summary

Inputs Source Outputs Destination

TI C NI All I	TD
Use Case Name: Add moderator	ID: Priotity:
Actor: Administrator	
Description	
Trigger:	
Type:	
Pre-conditions:	
1. The admin is authenticated	
2. The moderator database is available on-line	
Normal Course:	Information for Steps:
1. To add 1 more moderator, the admin need	Moderator Information
to fill in the form with including	
information: username, password,	
firstname, lastname, address, phone ,emai	
0 50	Existing moderator information
2. The system will check if the username and	1
email address exist in the moderator	A at at at 1
database or not	Activating Link
3. If all information is valid, new moderator	•
will be stored in moderator database.	
However, this moderator account haven't	
still logged in yet . 1 activating link will b	
sent to the moderator email	Moderator status
4. When the moderator click on this activation	¹ 8
link, the system will update moderator	
status and the moderator can login their	
account Doct conditions	
Post-conditions:	Jarahana
1. New moderator will be stored in moderator	or database.
Summary	

Outputs

Source

Inputs

Destination

Use Case Name: Delet	Use Case Name: Delete moderator ID: Priotity:					
Actor: Administrator			· · · · · ·			
Description						
Trigger:						
Type:						
Pre-conditions:						
1. The admin is author	enticated					
	abase is available on-line					
Normal Course:		Information for S				
	or clicks on checkbox to	List of mode	erator id			
	moderator he/she want to					
delete. Existing moderator id			derator id			
2. The system will find one by one moderator•						
	eted moderator in the					
moderator database to delete. Unsuccessfully deleting notification						
	noderator who work alread	5 -				
_	't allow the admin to dele					
	w unsuccessfully deleting	·				
notification.			y deleting notification			
· ·	w moderator database will					
_	be updated and the system will notify the					
admin.						
Post-conditions:						
1. The moderators will be deleted in moderator database.						
Summary						
Inputs Source Outputs Destination						

Use Case Name: Updat	e Moderator	ID:	Priotity:		
Actor : Administrator					
Description: The use ca	ase describe how to updat	e a moderator			
Trigger:					
Type:					
Pre-conditions:					
1. The admin is authent					
2. The moderator datab	ase is available on-line				
Normal Course:		Information fo	-		
,	rator, the admin click on		or Id		
	e link to transmit moderat	or			
id.			_		
	rch and show the existing		moderator information		
	ion of selected moderator				
	in moderator database. New information				
3. The admin can modify with new information •					
_	and submit it to the	Successf	ully updating notification		
1	system				
	4. When all information is valid, the system will				
	otification, one more				
	notification will be sent to the moderator's				
email whose id is inputted id. New					
information for the inputted moderator's id					
will be updated in moderator database Post-conditions:					
1. The selected movie in the database will be updated .					
Summary Inputs Source Outputs Destination					
Inputs	Source	Outputs	Destillation		

Use Case Name: Check	k Income	ID:	Priotity:		
Actor:	Actor:				
Description	Description				
Trigger:					
Type:					
Pre-conditions:					
1. The movie database	is available on-line.				
2. The room database is	s available on-line.				
3. The movie-room is a	vailable on-line.				
4. The schedule database	se is available on-line.				
5. The ticket database is	s available on-line.				
Normal Course: Information for Steps:					
1	require the admin to sele		nation		
_	neck the income including	g:			
1	check from date to date,				
check by schedule, check by room in					
form.	1 1	Total price.			
2. The system will	*	•			
	t or not and calculate the				
total price for all existing ticket.					
Post-conditions:					
1. The total pirce will be displayed					
Summary					
Inputs	Source	Outputs	Destination		

Use Case Name: Search ID: **Priotity: Actor**: Administrator **Description:** The use case describe how the administrator search information Type: Trigger: **Pre-conditions:** Member datastore, Moderator datastore, Movie datastore are available on-line **Normal Course: Information for Steps:** The administrator will choose the category Category he/she want to search by like movie, member... If admin choose search movie: **a.** The system will ask admin to enter the title of the movie or key word of the Title movie/ some keyword of title of title of the movie. movie **b.** The system will check if the input name or words that matched with the existing Existing movie titles movie title in movie datastore or not. **c.** If the input name or words matches List of movie having similar title with any existing movie title in the movie datastore, the list of movie with similar title will be displayed If admin choose search moderator: **a.** The system require admin to enter the fullname/first name or lastname or moderator id Moderator Id **b.** if admin enter moderator id: O the system will check existing moderator id in moderator Existing moderator id database. O If the input id appear in the Moderator database, the system will display exactly the moderator the admin want to find. Otherwise, nothing display Moderator name **c.** if admin enter name: o the system will check exsiting Existing moderator names moderator name in moderator database. List of Moderator having similar The system will display list of names moderators whose name are similar to input name. If admin choose search member: **a.** The system require admin to enter the Member Id member username **b.** The system will check existing member_ Existing member Id username in member database. **c.** If input member username exist in Member member database, The system will display exactly the member **Post-conditions:** Summary Source **Outputs Destination Inputs**

Use Case Name: Add FAQ ID: Priotity:					
Actor: Administrator					
Description: The use	ercase describe how to add	FAQ			
Trigger:					
Type:					
Pre-conditions:					
1. The admin is aut	henticated.				
2. FAQ database is	available on-line.				
Normal Course:		Info	ormation for St	eps:	
1. To add new F	AQ, the system will require	•	FAQ informa	tion	
the admin to	fill in the form with question	n			
and answer o	f FAQ				
2. New FAQ will be stored in FAQ database • Successfully FAQ-creating					
and the system will notify the admin with notification.					
successful me	essage.				
Post-conditions:					
1. New FAQ will be stored in FAQ database.					
Summary					
Inputs	Source	Output	S	Destination	
·	·		·	·	

Use Case Name: Updat	Use Case Name: Update FAQ ID: Priotity:					
Actor : Administrator	Actor: Administrator					
Description:						
Trigger:						
Type:						
Pre-conditions:						
1. The admin is auther	nticated.					
2. FAQ datastore is av	ailable on-line.					
Normal Course:			on for Steps:			
<u> </u>	FAQ, the admin will click		Id			
_	e number to transmit the					
FAQ Id.		FAQ	information			
5	search and display the	•				
	information of inputted id in FAQ database. Modified information					
	nodify the information by	' I				
1 0	replacing the old value with new value Successful notification					
4. If all information is all valid, the system •						
will show successful notification and the						
FAQ of inputted id will be updated.						
Post-conditions:						
Summary						
Inputs	Source	Outputs	Destination			

Use Case Name: Delete FAQ	ID:	Priotity:
Actor: Administrator		
Description:		
Trigger:		
Type:		

Pre-conditions:			
1. The admin is auther	nticated.		
2. FAQ datastore is av	ailable on-line.		
Normal Course:		Information for S	teps:
1. To delete FAQ o	or list of FAQ, the admin	FAQ Ids	
will click on che	ckboxes in list of FAQ to)	
transmit the FAC	Q Ids.		
2. The system will	search and delete one by	Existing	FAQ
one FAQ in FAC	database.		
Post-conditions:			
Summary			
Inputs	Source	Outputs	Destination

Use Ca	ase Name: Add Schedule	ID:	Priotity:		
Actor	: Administrator				
Descri	ption: The use case describe how to add n	ew schedule.			
Trigge	r:				
Type:					
Pre-co	nditions:				
1.The	admin is authenticated				
2. Sch	edule database is available on-line				
3. roo	m-movie is available on-line				
Norma	al Course:	Informa	tion for Steps:		
1.	The system requires admin to choose the	-	Movie id		
	movie by click on the movie title in comb	о			
	box to transmit the movie id				
2.	The system will find and display all of the	· +	List of showing room		
	room that is showing the inputted movie i	n			
	room-movie database as combo box				
3.	The admin will click on his/her desired	-	Room-Movie Id		
	room to transmit the id				
4.	The system will display all of occupied	•	List of occupied time		
	time and the function to add new schedule	2			
5.	The admin will enter the time for new	†	Time		
	schedule				
6.	The system will check if the inputted time	! -	List of starting time and ending		
	is collided with the gap between starting		time		
	time and ending time in schedule database				
7.	If the new schedule is collided, the system	1			
	will send unsuccessful notification to	ŀ	Unsuccessful notification		
	admin				
8.	If the new schedule is available, the system	n [List of new tickets		
	will be stored it in schedule database and				
	list of new ticket will be create in ticket				
	database, with new status the price of ticket				
will base on the time.					
Post-conditions:					
1. New Schedule will be stored					
2. List of tickets will be stored					
Summary Contracts Destination					
Inputs	Source	Outputs	Destination		

- (C) - (10/4) N(1) 13/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/	e: Update schedule	ID:	Priotity:
Actor: Admir	<u> </u>	ID.	1 Houty.
	he use case describe how	to undate the sche	dula
	ne use case describe now	to upuate the sche	uule
Trigger: Type:			
Pre-conditions	•		
	: is authenticated		
	is aumenucateu itabase is available on-lir	10	
Normal Course			nation for Stone
1. The adm	nin will click on the sched		nation for Steps: chedule Id
transmit 2. The syst	its id. iem will search and show i	the - S	chedule information
informa	tion of inputted in schedul	e database.	
	nin can change time and st		Iodified information
movie.	Γhe default status when cr	eated is	
	d when its current time is a	greater than	
_	time, the status will be		
	ically updated to finished.		
			otification to email
•	will notify the system will	l l	
	ically send mail to all the		
	oked tickets at for that sch	edule via	
email.			
Post-conditions	<u>3:</u>		
Summary			
Inputs	Source	Outputs	Destination
Use Case Name	e: Delete Schedule	ID:	Priotity:
Actor: Admin			1
Description			
Trigger:			
Type:			
Pre-conditions	• •		
Pre-conditions 1. The admin is 2. The schedule		line	
 The admin is The schedule 	s authenticated e database is available on-		nation for Steps:
1. The admin is 2. The schedule Normal Course	s authenticated e database is available on-	Inform	nation for Steps: chedule Ids
 The admin is The schedule Normal Course To delete the 	s authenticated e database is available on- e:	l click on S	<u>-</u>
 The admin is The schedule Normal Course To delete the checkboxes 	s authenticated e database is available on- e: ne schedule, the admin wil	l click on So transmit	<u>-</u>
 The admin is The schedule Normal Course To delete the checkboxes the list of so 	s authenticated e database is available on- e: ne schedule, the admin wil s in the list of schedule to t	l click on So transmit delete.	<u>-</u>
 The admin is The schedule Normal Course To delete the checkboxes the list of so The system schedule in 	s authenticated e database is available on- e: ne schedule, the admin wil s in the list of schedule to the chedule Id he/she want to will search and delete one schedule database.	l click on transmit delete. e by one E	chedule Ids xisting schedules
 The admin is The schedule Normal Course To delete the checkboxes the list of so The system schedule in If there is a 	s authenticated e database is available on- e: ne schedule, the admin wil is in the list of schedule to the chedule Id he/she want to will search and delete one schedule database. any schedule that's bought	l click on transmit delete. e by one Ettickets	chedule Ids
 The admin is The schedule Normal Course To delete the checkboxes the list of se The system schedule in If there is a already, the 	s authenticated e database is available on- e: ne schedule, the admin wil is in the list of schedule to the chedule Id he/she want to will search and delete one schedule database. In schedule that's bought system won't let the adm	Inform l click on transmit delete. e by one E t tickets in to	chedule Ids xisting schedules
 The admin is The schedule Normal Course To delete the checkboxes the list of so The system schedule in If there is a already, the delete and so 	s authenticated e database is available on- e: ne schedule, the admin wil s in the list of schedule to to chedule Id he/she want to will search and delete one schedule database. any schedule that's bought system won't let the adm show unsuccessful notifica	Inform I click on transmit delete. The by one E I tickets in to attion.	chedule Ids xisting schedules insuccessfully deleting notification
 The admin is The schedule Normal Course To delete the checkboxes the list of se The system schedule in If there is a already, the delete and se If theses me 	s authenticated e database is available on- e: ne schedule, the admin wil s in the list of schedule to the chedule Id he/she want to will search and delete one schedule database. any schedule that's bought system won't let the adm show unsuccessful notificationic haven't showed yet, the	Inform I click on transmit delete. e by one E t tickets in to ation. he system So	chedule Ids xisting schedules
 The admin is The schedule Normal Course To delete the checkboxes the list of se The system schedule in If there is a already, the delete and se If theses me will allow to 	s authenticated e database is available on- e: he schedule, the admin will is in the list of schedule to the chedule Id he/she want to will search and delete one schedule database. In schedule that's bought system won't let the admin show unsuccessful notification ovie haven't showed yet, the admin to delete and dis	Inform I click on transmit delete. e by one E t tickets in to ation. he system So	chedule Ids xisting schedules insuccessfully deleting notification
 The admin is The schedule Normal Course To delete the checkboxes the list of so The system schedule in If there is a already, the delete and so If theses me will allow the successfully 	s authenticated e database is available on- e: ne schedule, the admin wil s in the list of schedule to to chedule Id he/she want to will search and delete one schedule database. any schedule that's bought system won't let the adm show unsuccessful notification be admin to delete and dis y deleting notification.	Inform I click on transmit delete. e by one E t tickets in to ation. he system So	chedule Ids xisting schedules insuccessfully deleting notification
 The admin is The schedule Normal Course To delete the checkboxes the list of se The system schedule in If there is a already, the delete and se If theses me will allow the successfully Post-conditions 	s authenticated e database is available on- e: ne schedule, the admin wil s in the list of schedule to the chedule Id he/she want to will search and delete one schedule database. In y schedule that's bought system won't let the admin show unsuccessful notification by deleting notification.	Inform I click on transmit delete. e by one E t tickets in to ation. he system splay the	chedule Ids xisting schedules insuccessfully deleting notification
 The admin is The schedule Normal Course To delete the checkboxes the list of so The system schedule in If there is a already, the delete and se If theses me will allow the successfully Post-conditions The movie 	s authenticated e database is available on- e: ne schedule, the admin wil s in the list of schedule to to chedule Id he/she want to will search and delete one schedule database. any schedule that's bought system won't let the adm show unsuccessful notification be admin to delete and dis y deleting notification.	Inform I click on transmit delete. e by one E t tickets in to ation. he system splay the	chedule Ids xisting schedules insuccessfully deleting notification
 The admin is The schedule Normal Course To delete the checkboxes the list of set The system schedule in If there is a already, the delete and set If theses me will allow the successfully Post-conditions 	s authenticated e database is available on- e: ne schedule, the admin wil s in the list of schedule to the chedule Id he/she want to will search and delete one schedule database. In y schedule that's bought system won't let the admin show unsuccessful notification by deleting notification.	Inform I click on transmit delete. e by one E t tickets in to ation. he system splay the	chedule Ids xisting schedules insuccessfully deleting notification

Use Case Name: Ban M	1ember	ID:	Priotity:			
Actor : Administrator						
Description: The use ca	ase describe how admin b	an members				
Trigger:						
Type:						
Pre-conditions:						
1. The admin is authenti	icated					
2. The member database	e is available on-line					
Normal Course: Information for Steps:						
1. To ban members	s, the system will require	the• Member us	ername			
admin to membe	er username. Members w	10				
were banned alre	eady won appear their na	me				
in the list.						
2. The status of me	2. The status of member will be turn to banned •					
and when memb	er try to login their accou	ınt, Notification	n for being banned			
the system will s	show their status.					
Post-conditions:						
Summary						
Inputs	Source	Outputs	Destination			

Use Case Name: Add Showing Room	ID: Priotity:
Actor: Administrator	
Description: The use case describe how the admi	n create showing room
Trigger:	
Type:	
Pre-conditions:	
1. Room database is available on-line	
2. Movie database is available on-line	
Normal Course:	Information for Steps:
1. The system will display a list of rooms with	_
good status in room database as combo bo	X
for the admin to select.	
2. The system will display a list of all movie	List of movies with showing status
with showing status in movie database as	
combo box.	Clareta de caración con de caración
3. The admin will choose his/her options for room and movie	Slected movie and rooms
4. The system will check if the selected room	List of showing rooms with status
showing the selected movie exist or not in	showing
the movie-room database or not.	Showing
5. If existed, the system will display	Unsuccessful notification
notification for failing to create a new	Onsuccessial nonreaction
showing.	successful notification
6. If not, the new showing will be stored in	Successial notification
movie-room database with showing status	
and the system will display successful	
notification	
Post-conditions:	
1. New showing room is stored in movie-ro	om database

Outputs

Summary Inputs

Source

Destination

Jse Case Name: Update showing room ID: Priotity:					
Actor: Admin					
Description: The use case describe how the adm	in to update showing roo	ms			
Trigger:					
Type:					
Pre-conditions:					
1. Movie-room database is available on-line					
Normal Course:	Information for St	eps:			
 The system will display a list of showing movie based on the way admin selected a status (all,showing,fisnished). 		ng movies			
2. The admin can change the status of 1 showing room and its new status will be updated in movie-room database.					
Post-conditions:					
Summary					
Inputs Source	Outputs	Destination			

Use Case Name: Delete showing room	ID:	Priotity:			
Actor: Administrator					
Description					
Trigger:					
Туре:					
Pre-conditions:					
1. The admin is authenticated					
2. The movie-room database is available	e on-line				
Normal Course:	Informa	ntion for Steps:			
1. To delete the showing room, the adm	nin will •	Showing room Ids			
click on checkboxes in the list of sch	nedule to				
transmit the list of showing room Id	he/she				
want to delete.		Existing showing room			
2. The system will search and delete or	ne by one 💌				
showing room in movie-room databa	ase.	Unsuccessfully deleting			
3. If there is any showing room that's		notification			
schedules already, the system won't					
admin to delete and show unsuccess:	ful				
notification.					
4. If theses movie haven't showed yet,	the system	Successfully deleting notification			
will allow the admin to delete and di	isplay the •				
successfully deleting notification.					
Post-conditions:					
3. The movie in the database will be de	eleted .				
Summary					
Inputs Source	Outputs	Destination			
Use Case Name: Search Movie	ID:	Priority:			

Actor : Guests/Members

Description: This use case describes how the end-user search their desired movie.		
	Page 37	

Trigger:			
Type:			
Preconditions:			
1. Movie database is available and on-line			
Normal Course:	Information for Steps:		
5. Customers specify the way they want to search	Search Selection		
by choosing showing time, movie.			
6. Based on the selected way, the system will show			
text for searching movie by name or time			
options for searching movie by time.			
7. If search by movie, Customer will be ask to enter	Movie name		
movie name.			
8. The system will check for any movie that Existing movie			
matches with the input name.			
9. If there are any movies with the name	List of movie		
corresponding with the input name, the system			
will display list of movie with this name.			
Otherwise, nothing displays.			
10. If search by time, Customer will be asked to	Date, time		
select date and time slot.			
11. The system will check if there are any existing	Existing movie		
movies showing at input time			
12. The list of movies at input time will be	List of movie		
displayed if there is existing movie at that time.			
Otherwise, nothing displays			
Post conditions:			

List of movie is displayed

Summary				
Inputs	Source	Outputs	Destination	
Search Selection	Customers	List of Movie		
Movie name	database			
Existing movie				
Date, time				
•		•	•	

Use Case Name: Create	e Account	ID:		Priority:
Actor : Customers				_
Description: This use	case describe how to cr	eate a r	new account for cust	tomers
Trigger:				
Type:				
Preconditions:				
1. Customers database	is available and on-line	!	T	
Normal Course:			Information for S	
	specify their information		Customer	's information
9	ame, password, first na			
	ess, email, phone, id car		-	
-	check the existing user	name	Existing u	isername
in customers acc		:1 :		
	check the existing ema	111 1111	Existing e	lliali
	customers account.		Notification	
±	If inputted username or email existed in the system. The system will notify the customers		Notification	OII
and ask them to	5	Officis		
If all information are valid, the system will		Activating	z link	
	automatically send the activate link to			9
customer's emai				
As the customer	As the customers enter activating link, the		Notification	on
system will noti	fy congratulation mess	age		
and customers c	an login their account			
Post conditions:				
1 New customer is st	ored.			
Summary				
Inputs	Source		puts	Destination
Customer's			fication	
information		I	vating link	
Existing username		Noti	fication	
Existing email				
	1	1		I .

Use Case Name: Book ticket ID:	Priority:
Actor : Customers	
Description: This use case describe how to book ticket onl	ine
Trigger: Type:	
Preconditions:	
1. Member is authenticated	
2. ticket database is available and on-line	
3. Customer database is available an on-line	
Normal Course:	Information for Steps:
The system will require the member to choose a	Movie selection
movie from list of current showing movies	
The system will ask the member to choose the date	Date and time
and time they would like to watch	
The system will show the list of simulated seat	List of seats
positions on the screen that look like real positions.	
Red seats are occupied already, and white seats are	
still available.	_
The customer chooses their desired seats by clicking	Desired seats
on it. It just only work with available seats.	
The system will send the customers the confirmation	Confirmation
for his/her selection.	D 1:
The system will display the information of	Booking information
customer's booking and show the total money.	The state of the s
When customers agree to make payment. He will be	Paying option
offered the way to pay, paying online or paying later	
at ticket sellers.	
If customers choose paying online:	
They will be forwarded to paying agency. They will	
make their payment there.	Daving status
When they finish their transaction, the system will	Paying status
store their booking information and update paying	
status of ticket database into sold status. The system will send confirmation code and	Confirmation code and
notification though customer email.	notification
If customers choose paying later:	nouncation
d. The system will store their booking information	Paying status
and paying status. The paying status in ticket	1 aying status
database will be updated into booked status.	
e. The system will also send confirmation code to	Confirmation code
customers email.	
f. The system will send the notification that require	Notification
customers to get tickets they bought before 1 hours	Trouttedion
the movie play. If customers don't come at that time,	
ticket database will return to available status and	
their confirmation code after that time will be	
invalid.	
Post conditions: ticket data store will be updated	
Summary	

Summary			
Inputs	Source	Outputs	Destination
Movie Selection		List of seats	
Date and time		Confirmation	
Selected seats		Notification	

D () 1					
Payment method	1 111.	- TD			
Use Case Name: View	purchased history	ID:		Priority:	
Actor : Customers					
	ase describe how custome	rs see purchas	ed history.		
Trigger:					
Type:					
Preconditions:					
1. Member is authentication					
2. Ticket database is av					
3. Member database is	available and on-line				
Normal Course:	.1.6.11	·11 C· 1		on for Steps:	
	e id of member , the system	n Will find.	Membe	er Id	
5	oought in ticket database.		C	1 1	
e. The system will check existing booking customer Customer booking			ier booking		
	in ticket database				
f. If the system can find any member id in ticket			List of ticket		
database, it will show list of ticket bough by that member .			Ti aleas l	r.i	
g. Each ticket in list of tickets will have different Id; the end-user will enter its id by clicking on it. Information of the tickets will have different Id;			ation of the tightet		
the end-user will enter its id by clicking on it.			information of the ticket.		
h. For each ticket Id, the system will find information including movie title, day, time, and					
price.	including movie title, day,	unie, and			
Post conditions:					
	ht hy current user will be a	havelesib			
8 List of tickets bought by current user will be displayed Summary					
Inputs Source Outputs Destination					
Member Id	List of ticket			Destination	
Customer booking Information of the					
Cicket Id ticket.					

77 0 77 1 01	T.D.			
Use Case Name: Update profile	ID:	Priority:		
Actor : Customers				
Description: The use case show how to m	odify account			
Trigger:				
Type:				
Preconditions:				
1. Member is authenticated				
2. Member database is available and on-lin	e			
Normal Course:		Information for Steps:		
To modify the account, customer ne	ed to click on ·	Customer Id		
their name in hyperlink to transmit h	nis/her id			
Based on the member Id, the system	will find all	Member information		
information of this member id but user id in				
member database				
The customer will be able to change	their present	New information		
information by entering new inform	ation. The			
system will check if these new infor				

	alia, these information v	wiii be			
updated in mem	ber database				
If updating succ	If updating successfully, The system will send		Notification		
notification for	notification for the customer.				
Post conditions:					
3. The user database v	with new information wi	ill be update			
Summary		-			
Inputs	Source	Outputs		Destination	
Customer Id		Member i	nformation		
New information		Notification			
	1			1	
TI C NI 17'	. 11	TD		D	$\overline{}$

Use Case Name: View movie detail ID:			Priority:	
Actor : All				
Description: The use c	ase describe how the us	ser view t	he information	of 1 movie
Trigger:				
Type:				
Preconditions:				
1. The movie database	is available on-line			
Normal Course:			Information f	or Steps:
d. To view info	ormation of a movie, user	needs	Movie Id	
to click on movie title in hyperlink to)		
transmit the movie id.				
e. Based on the	e inputted movie id, the s	ystem	Existing movie information	
will search, display existing movie			_	
information	of inputted id and the us	se case		
will end.				
Post conditions:				
4. Existing information of inputted id movie will be display.				
Summary				
Inputs	Source	Outputs Destination		Destination
Movie Id		Existing movie		
		informa	tion	
		_		

Actor: All				
Description: The use case describe how one user change his/h	er password			
Trigger:				
Type:				
Preconditions:				
7. The user is authenticated				
8. The user database is available on-line				
Normal Course: Informa	ation for Steps:			
3. The user need to enter his/her current Cu	rrent password, new and confirmed			
password to confirm it first and then enter new password				
new password and confirmed password.				
4. Based on the inputted current password, the Cu	rrent password			
system will search if this password exists in				

ID:

Use Case Name: Change Password

Priority:

user database or not.

- 5. If the current password is different from the inputted current password, the system will display notification for wrong password and the use case will finish.
- **6.** If the inputted current password is correct, the system will update the password into the inputted new password and show the notification for successful process and end the use case.

Notification for wrong password

Successful notification for changing the password

Post conditions:

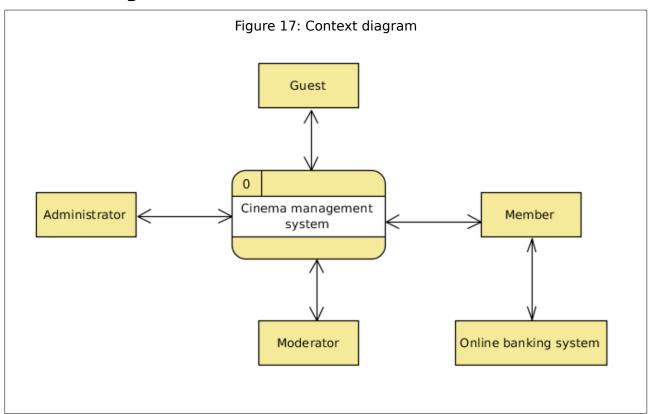
5. New password of current user will be updated

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J	uu		ш	

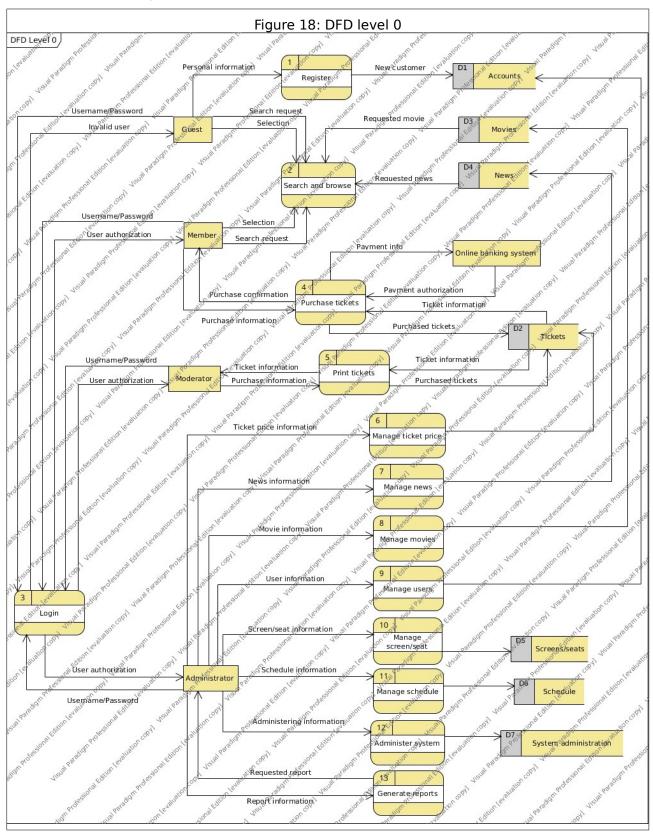
Inputs	Source	Outputs	Destination
Current password,		Current password	
new and confirmed		Notification for wrong	
new password		password	
Successful		_	
notification for			
changing the			
password			

Process Modeling

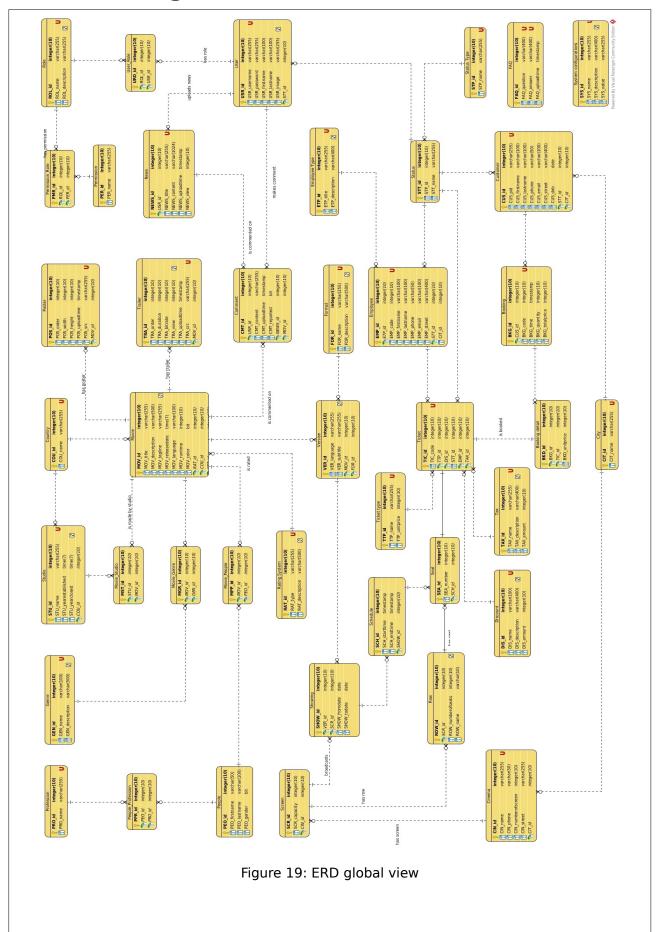
Context diagram

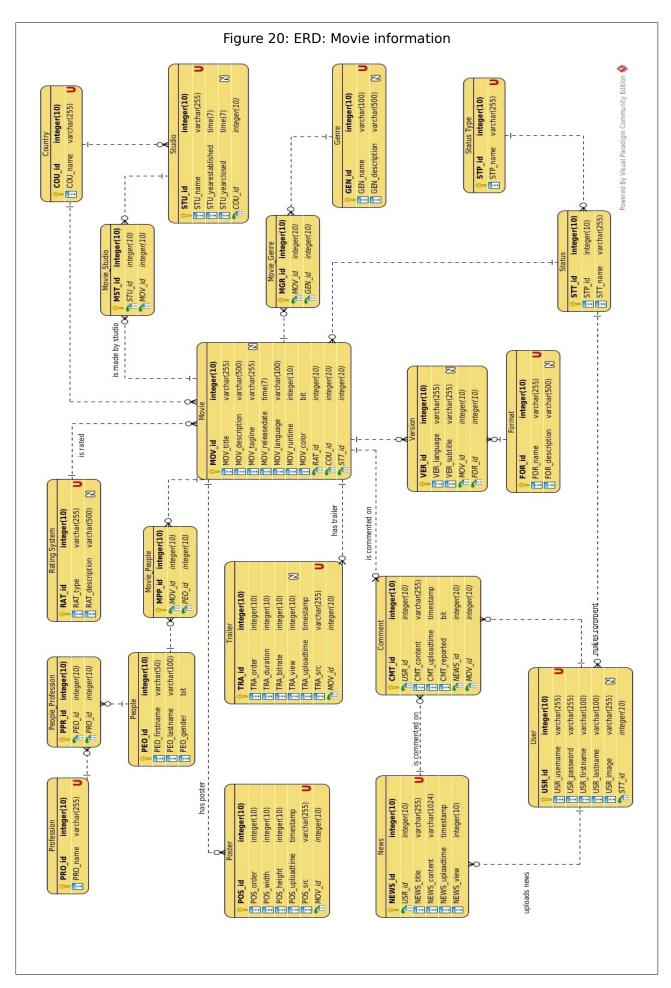


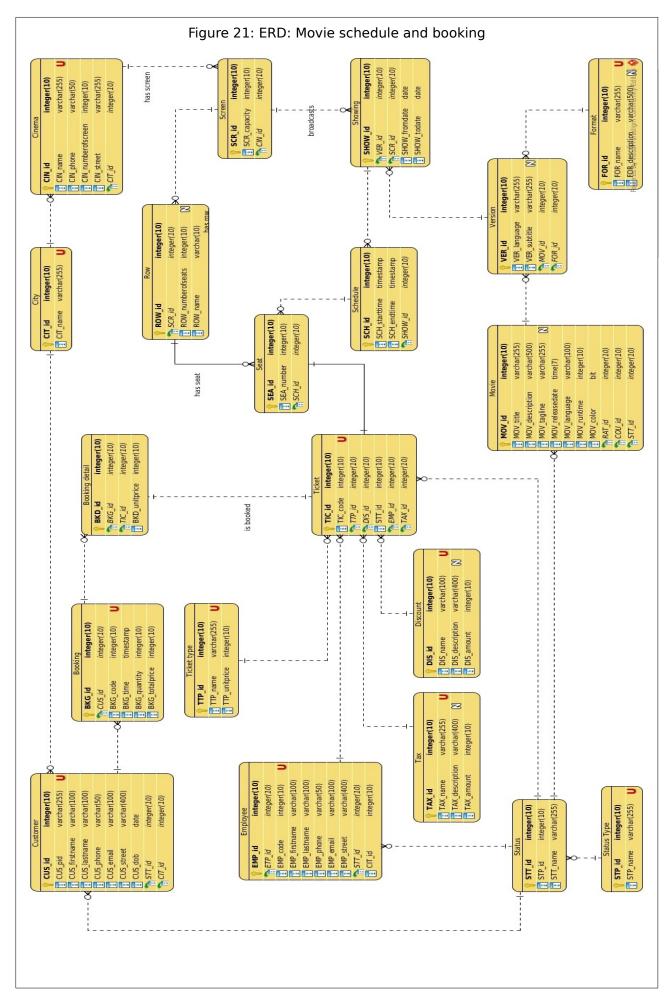
Data flow diagram

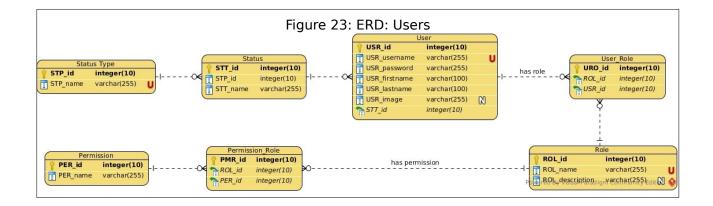


Data modeling









Design phase

Acquisition Strategy

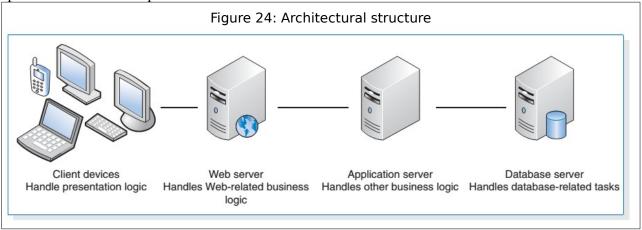
To implement this project we choose custom development because of the following:

A custom application would be easier to change to include components that take advantage of current technologies that can support such strategic efforts.

Custom development also allows developers to be flexible and creative as well as builds technical skills and functional knowledge among the developers.

Architecture Design

We use *n*-tiered architecture (specifically 4-tiered architecture) for our project since it distributes the work of the application among multiple layers of more specialized server computers and thus balance the load on the different servers better. This architecture is scalable and reliable. It is also open for further development.



Based on the above architecture, we suggest the following hardware and software specifications:

	Standard Client	Standard Web Server	Standard Application Server	Standard Database Server
Operating system	Windows Mozilla	Linux	Linux	Linux
Special software	Real Audio Adobe Acrobat Reader	Apache	Java	Oracle

	Standard Client	Standard Web Server	Standard Application Server	Standard Database Server
Hardware	250-GB disk drive Intel ®- Core TM i3- 2100 dual core processor 14-inch LCD Monitor	500-GB disk drive Dual-core Xeon	160-GB disk drive Quad-core Xeon	1-TB disk drive RAID Quad-core Xeon
Network	Always-on Broadband, preferred Dial-up at 56 Kbps, possible with some performance loss	Dual 100 Mbps Ethernet	Dual 100 Mbps Ethernet	Dual 100 Mbps Ethernet

Table 4: Hardware and software specifications

User Interface Design

(See mockup folder for more protoypes)

Figure 25: Home page) (Customer username Personal Information Your book Movie Schedule Promotion FAQ showing upcoming In select Movie Select Movie ▼ combobox, it just show the movie with showing status Avenger 2 Ant Man Home Select Date ▼ 21/5/2015 22/5/2015 23/5/2015 In select Date combobox, it just show at most 2 days later Select Time ▼ 9:00 9:30 11:00 12:30 Book Ticket

Data Storage Design

