

# Textual Analysis & Use Case Modeling for ABC Library System

## Textual Analysis

- ➔ In this step, I analyzed the ABC Library requirements text and identified system Actors such as Members, Staff/Librarian, and system functions. I assigned candidate actions like create membership, checkout items, return items, login, view items, pay fine, etc.

No.	Candidate Class	Extracted Text	Type	Description	Occurrence	Highlight
1	Member	members	♀ Generate...	Library Users who can borrow items and use library services	12	
2	Staff	staff	♀ Generate...	Library Staff responsible for issuing cards, managing items and more.	2	
3	Librarian	Librarian	♀ Generate...	Librarian has the power to suspend or cancel any membership for unpaid fee and much more than staff	4	
4	Create Membership	can become members	♂ Generate...	Anyone can become member of the library and then can enjoy the services of the library	1	
5	Checkout Items	borrow	♂ Generate...	Members borrow books, CDs, or DVDs from library	1	
6	Calculate Late Return Fine	incur fines	♂ Generate...	System calculates fines for items returned after due date	1	
7	Create Online Accounts	create online accounts	♂ Generate...	Members can create online accounts as well	1	
8	Log into system	logging in	♂ Generate...	Log into system to order any book return or check fines or due date of any borrowed item	1	
9	Search Items	search items	♂ Generate...	Searching items on system to borrow or order it from other branch	1	
10	Impose No Hold Pickup	Member does not pick a	♂ Generate...	Members can not hold on for held items and will be issued to other member after 7 days.	1	
11	Checkin Item	return the items	♂ Generate...	Members are free to return the items of library to any branch possible	1	
12	View Fines	see any outstanding fine	♂ Generate...	Members and staff can see any outstanding fines remaining and can pay before membership suspension	1	
13	Pay Fine	pay their fines	♂ Generate...	Members pay outstanding fines for overdue or lost items or any other fault.	1	
14	Generate Item Availability	receive an email from the	♂ Generate...	System automatically generates email of the items available to borrow.	1	
15	Generate Due Date Reminder	Automatic emails are also	♂ Generate...	System generates email for due date approaching to alert them and save from fines.	1	
16	Suspend Account	suspend	♂ Generate...	Only librarian can suspend the members membership if the terms are not followed for more than a period	1	
17	Cancel Account	cancel	♂ Generate...	Librarian can cancel the membership if they see violation of terms and conditions of the library.	1	
18	Reinstate Membership	reinstate a membership	♂ Generate...	Librarian can also reinstate the membership once the member fulfill the required action for reinstate his	1	
19	Generate Hold Items List	creating a list of items to	♂ Generate...	Librarian will be performing the task of creating the list of items to be put on hold	1	
20	Generate List Items Transported	items to be transported	♂ Generate...	Librarian also create list of items to be transported to another library branch	1	
21	Generate Items List to be received	generate a list of items	♂ Generate...	Librarian also create list of items to be received in their home branch.	1	
22	Print Library Card	issued a library card	♂ Generate...	Members can get a library card free of charges after two pieces of identifications with home address on card	1	
23	Cancel Hold	taken off the hold	♂ Generate...	Librarian will also create list of items to take off from the hold.	1	

## Use Case Diagram

- ➔ Based on the textual analysis findings, I constructed a complete Use Case Diagram showing how each actor interacts with the ABC Library system. Members are connected to actions such as login, search items, borrow, return, pay fine, etc. Staff / Librarian actors are connected to actions like check-in, suspend membership, add/remove items, and manage branch operations.

I also treated **Time** as an automated actor to handle scheduled rules like canceling holds, calculating late return fines, and triggering no-fine conditions - this helps separate system logic from manual user actions.

