

Library System General Overview

Ana Griga, Theodora Tataru and Derry Brennan



[This Photo](#) by Unknown Author is licensed under [CC BY-SA](#)

Table of Contents

Library System General Overview	3
LOAN BOOK USE CASE SCENARIO	5
RETURN BOOK USE CASE SCENARIO	8
APPLY FOR MEMBERSHIP USE CASE SCENARIO	10
BOOK REQUEST USE CASE SCENARIO	12
BOOK RECORDS USE CASE SCENARIO	14
Learning Outcomes	16

Library System General Overview

In our library system we have made an account for 5 specific use cases. These we feel are the main functions of the library system and are as follows:

- ❖ **Loan a Book**
- ❖ **Return Book**
- ❖ **Apply membership**
- ❖ **Book request**
- ❖ **Book Records**

In the **loan a book** scenario we have a Member looking to loan a book out. The librarian checks if the book is in stock first. Then checks the persons membership. In the event they are not a member we offer them to become a member or in the event that they owe a lot of money on their account we refuse the loan until the account is cleared. Once these conditions have been met we loan the book to the member and finally provide to them the information about the loan duration and the fees that will be applies upon returning late.

In the **return a book** scenario we have the member coming back to the library with a loaned book. The librarian receives the book and checks the books loan status. At this stage a fine will be applied to the members account if they are returning the book late. The librarian will change the books status on or system to available, this will include an update in the books table under the relevant section.

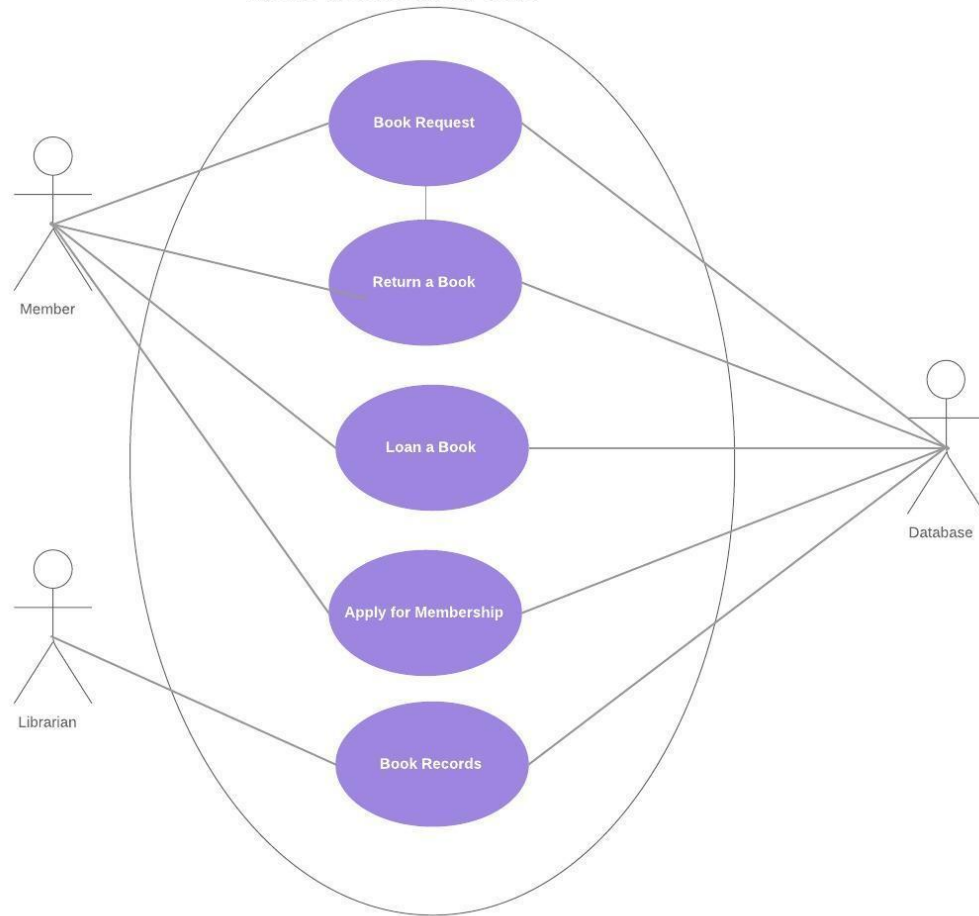
In the **apply for membership** scenario a perspective member comes into the library to sign up with us. The first step is engaging a staff member about the process. The staff member will tell them about required proofs of identity. The person will provide these and the staff member will conduct a search to ensure that that the person is not already a member. If the identity is correct and membership is not already present , then the staff member will create a new membership for that person.

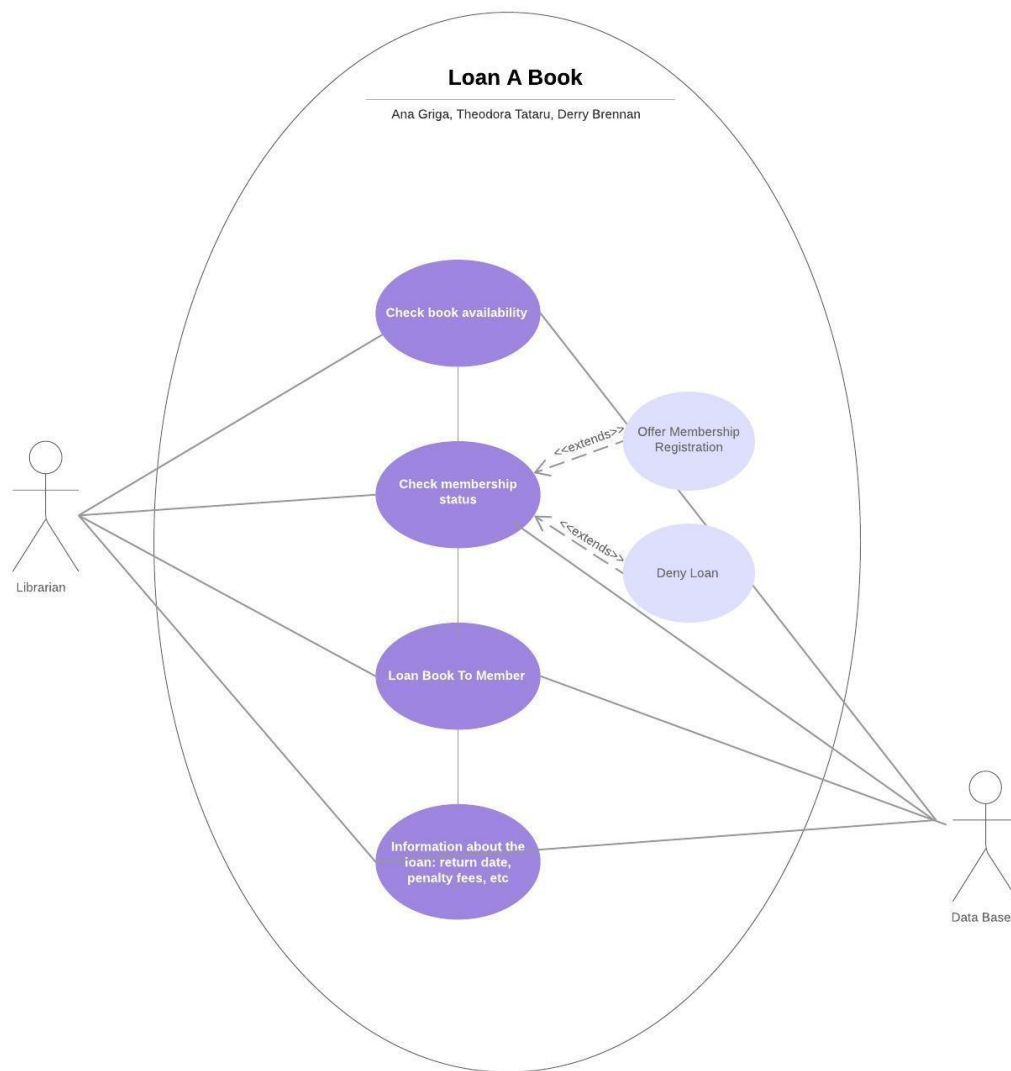
In the **book request** scenario a member comes in and requests a specific book. The staff member will conduct a search and see if the book is already stocked and if so will instigate a loan a book scenario. If the book is not present then the staff member will create an entry in the request a book table with the details of the member and the book requested.

In **book records** scenario we have the option for members and staff to search our database for books and to see their availability on the screen. In the event that it is a staff member conduction the search they will be provided with extra options such as adding a new book, updating an existing books details or deleting a book from our database.

General Use Case for Library System

Ana Griga, Theodora Tataru, Derry Brennan



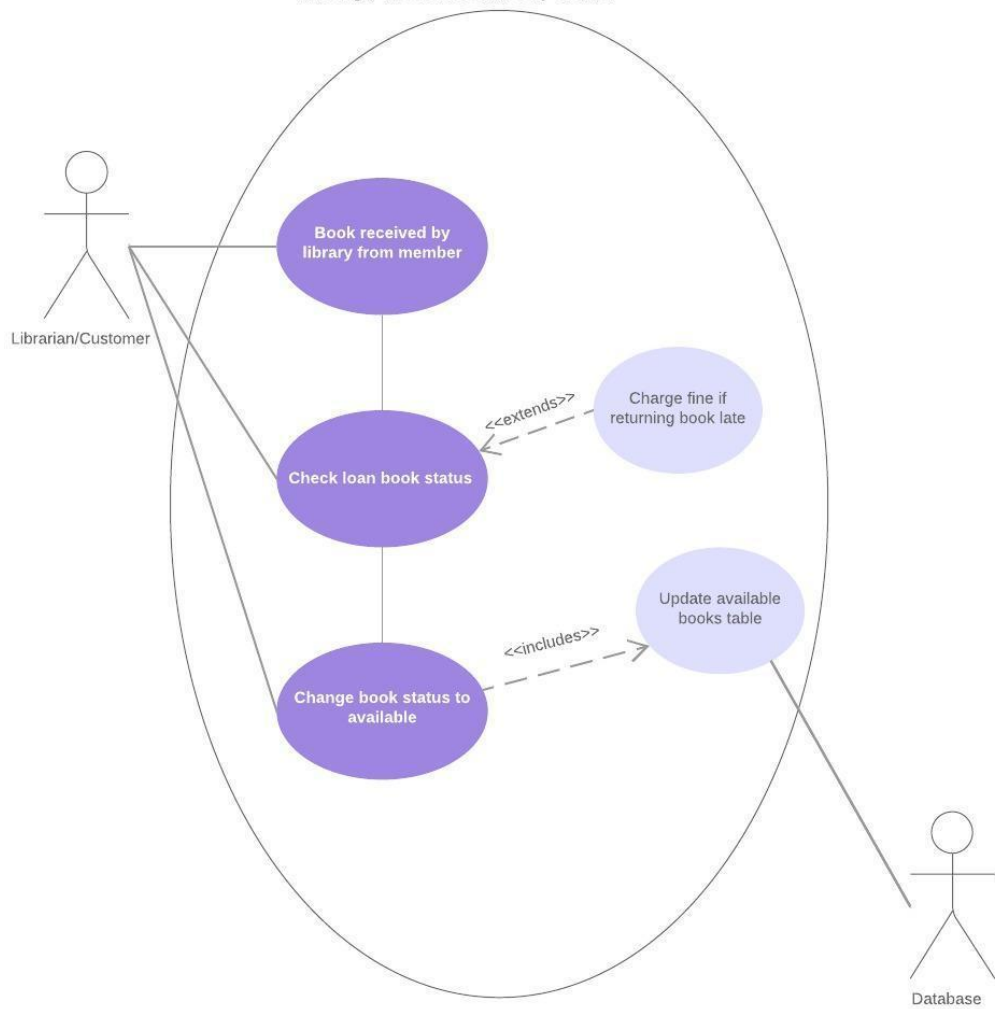


LOAN BOOK USE CASE SCENARIO

Use Case Scenario			
Created by:		Ana Griga, Derry Brennan, Theodora Tataru	On (date): 27/11/2018
Use Case Name:		Loan a Book	
Area:		Library Computer System	
Actors:		Users, Librarians, Library Database	
Description:		User loans a book out from library	
Triggering event:		User enters library	
Trigger type:		External	
Step	Steps Performed		Info for Steps
1	Check availability of a book		Search Book database for requested book
2	Check membership		See if the user is a member
3	If no membership, we offer one		
4	If bad account status, deny loan		
5	Register loan to member		Update borrow class
6	Inform about loan criteria		Inform about date return and fines if late
Preconditions			
User wants to loan a book			
Postconditions			
User gets the book and the database is updated			
Assumptions:		The user is a member	
Requirements met:		Identify was proven	
Outstanding issues:		That the user is of the correct age for the book that they are loaning out	
Priority:		High	
Risk:		High	

Return A Book

Ana Griga, Theodora Tataru, Derry Brennan

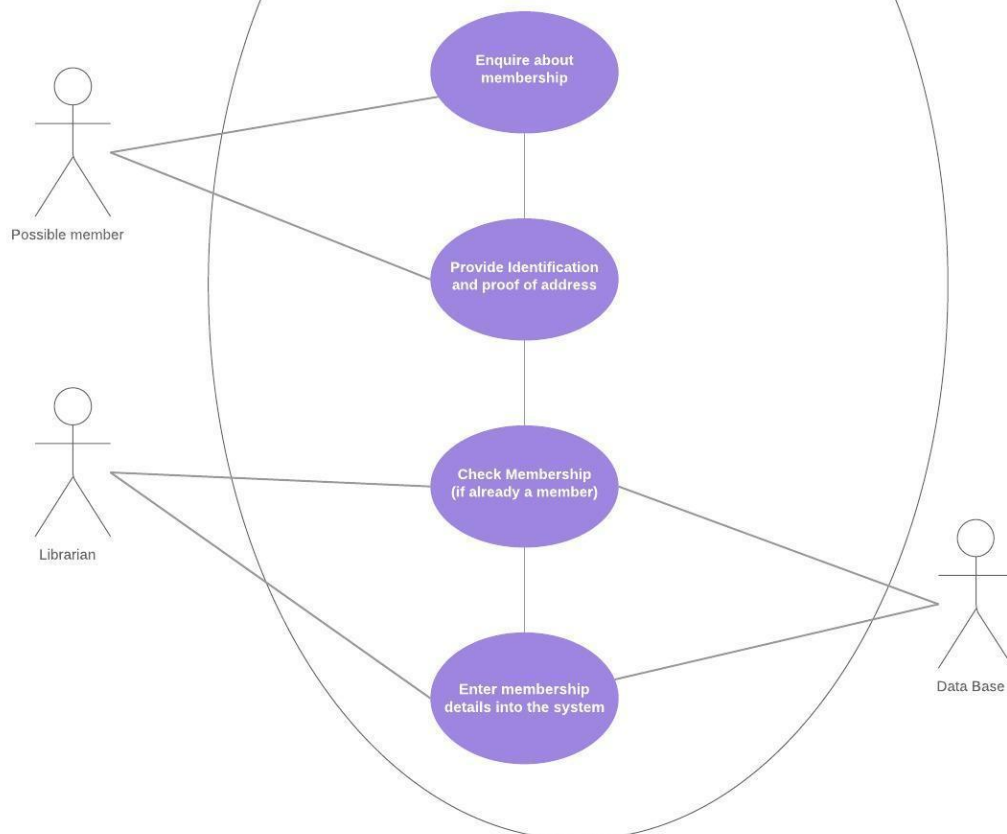


RETURN BOOK USE CASE SCENARIO

Use Case Scenario			
Created by:	Ana Griga, Derry Brennan, Theodora Tataru	On (date):	27/11/2018
Use Case Name:	Return Book		
Area:	Library Computer System		
Actors:	Users, Librarians, Library Database		
Description:	User returns books to the library		
Triggering event:	User enters library with the borrowed books		
Trigger type:	External		
Step	Steps Performed	Info for Steps	
1	Book received by library	Book is brought back to the library by the member	
2	Check book loan status	Check if the return is not late	
3	Change book status	Update the status of the book to available	
4	Update member account	Add an late fees to the members account where applicable	
5			
Preconditions			
User had loaned a book			
Postconditions			
User is returning the book and the database is updated			
Assumptions:	The user is a member and has loan a book		
Requirements met:	The user is bringing the book back		
Outstanding issues:	In the event of the book being returned in a damaged state a maximum fee will be applied to the members account.		
Priority:	High		
Risk:	High		

Apply for Membership

Ana Griga, Theodora Tataru, Derry Brennan

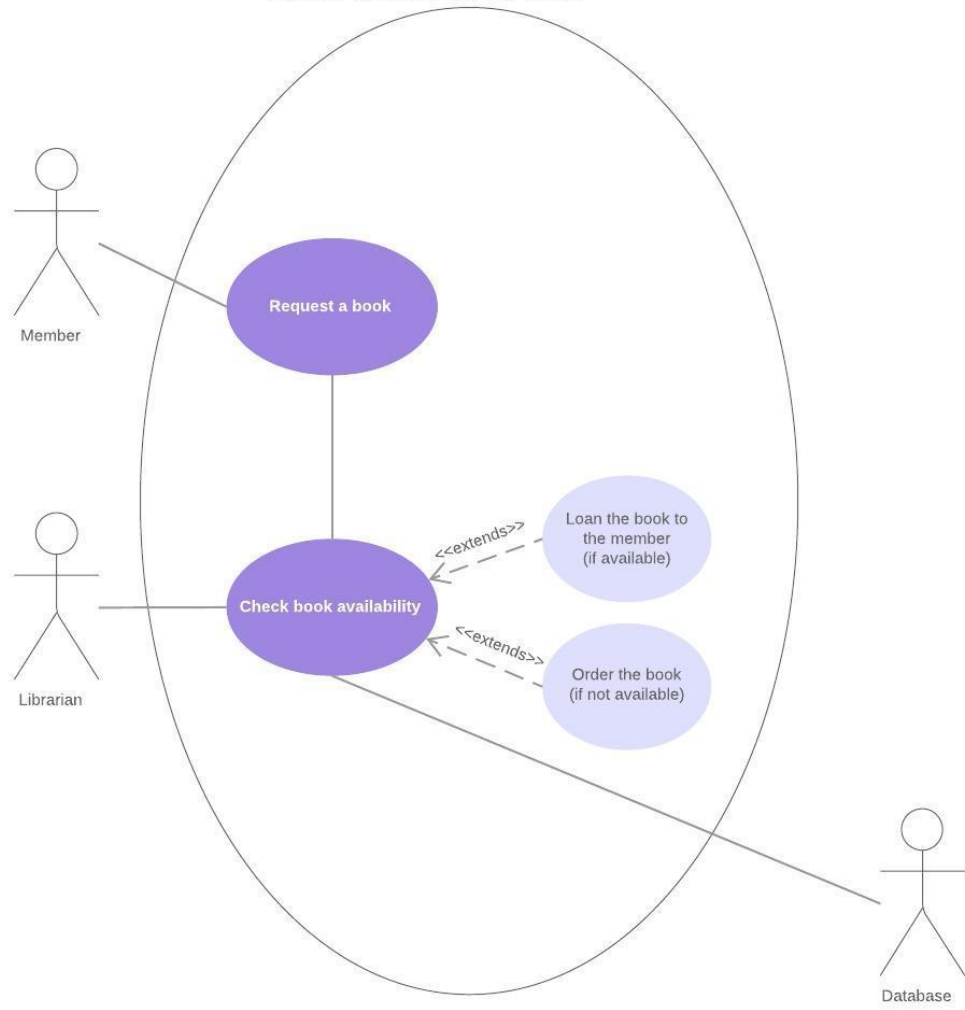


APPLY FOR MEMBERSHIP USE CASE SCENARIO

Use Case Scenario			
Created by:		Ana Griga, Derry Brennan, Theodora Tataru	On (date): 27/11/2018
Use Case Name:		Apply for Membership	
Area:		Library Computer System	
Actors:		Users, Librarians, Library Database	
Description:		Person applies for a membership	
Triggering event:		A person enters the library looking to start a membership	
Trigger type:		External	
Step	Steps Performed		Info for Steps
1	Enquire about membership		Book is brought back to the library by the member
2	Provide identification and proof of address		Check if the return is not late
3	Check membership		Check if already a member
4	Enter membership details		
5	Provide the Card		
Preconditions			
User is not a member already and has suitable identification			
Postconditions			
User is applying for membership and has appropriate identification			
Assumptions:		The user is not a member	
Requirements met:		Identification and proof of address provided	
Outstanding issues:		In the event of no valid proof of address a letter of sponsorship from an existing member is acceptable.	
Priority:		High	
Risk:		High	

Request a book

Ana Griga, Theodora Tataru, Derry Brennan

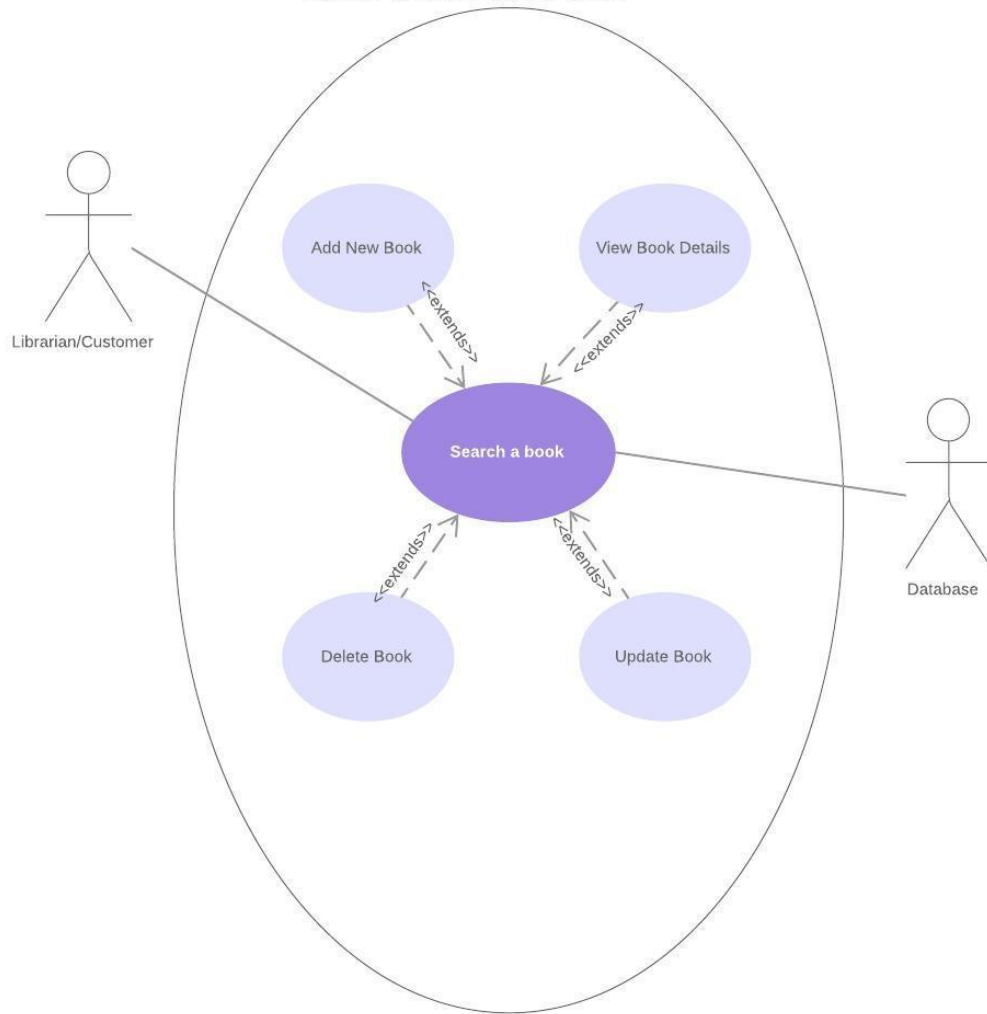


BOOK REQUEST USE CASE SCENARIO

Use Case Scenario			
Created by:		Ana Griga, Derry Brennan, Theodora Tataru	On (date): 27/11/2018
Use Case Name:		Book Request	
Area:		Library Computer System	
Actors:		Users, Librarians, Library Database	
Description:		A new record is created in the requested book table	
Triggering event:		A member requests that we stock a book that is not currently present in the library	
Trigger type:		External	
Step	Steps Performed		Info for Steps
1	Member requests book		Member engages staff member with their request
2	Check if they are actually a member		Check user is valid and current member
3	Staff member creates a new entry in requested book table		Uses the add new requested book
4	An option to notify the member when book arrives		Check a box to e-mail member when their requested book arrives in the library
Preconditions			
That the requested book is not presently stocked in the library			
Postconditions			
The requested book is added to the requested book table			
Assumptions:		That the book is not on the banned book list	
Requirements met:		The user is a member of our library	
Outstanding issues:		That the requesting member is of a correct age for the requested book	
Priority:		High	
Risk:		High	

Book Records

Ana Griga, Theodora Tataru, Derry Brennan

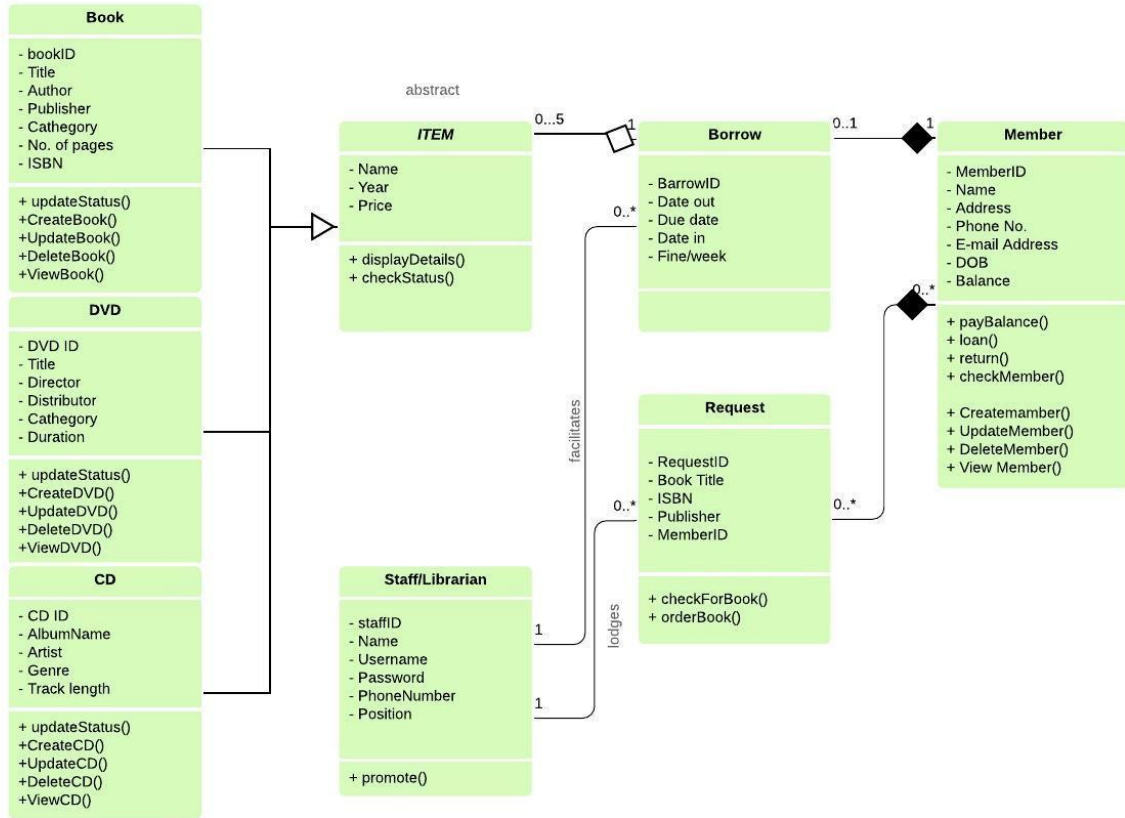


BOOK RECORDS USE CASE SCENARIO

Use Case Scenario			
Created by:		Ana Griga, Derry Brennan, Theodora Tataru	On (date): 27/11/2018
Use Case Name:		Book Records searched by member/ updated, added or deleted by staff	
Area:		Library Computer System	
Actors:		Users, Librarians, Library Database	
Description:		The book table is searched and the results displayed on screen. With the option to add, update or delete by a staff member	
Triggering event:		A member or librarian searches the book table from a provided computer	
Trigger type:		External	
Step	Steps Performed		Info for Steps
1	Actor initiates a search of a book		Uses the provided computer system
2	Results displayed on screen		With the added details of if the book is on loan
3	Option for staff to update, add or delete from the list provided		Update the values in the book table accordingly
4			
Preconditions			
Actor is searching for a book from our system			
Postconditions			
Results displayed on screen			
Assumptions:		The actors have access to the computer system of the library	
Requirements met:		The user can use the system. The user must be a staff member to alter the tables	
Outstanding issues:		I n the event of a book being searched for that is not stacked a suitable message is displayed suggesting that book be requested.	
Priority:		High	
Risk:		High	

Class Diagram for Library

Ana Griga, Theodora Tataru and Derry Brennan | December 4, 2018



Learning Outcomes

The main thing that we learned from this project would be how to work well within a team, from the others picking up the slack when one of us fell ill, to another member taking over a section that came more easily to them than the others. It is all about give and take and it's been very informative and a pleasure too.

We all also got a lot of experience with UML diagrams, both the use case and the class diagrams. They went from being incomprehensible in the beginning to being like second nature towards the end. It also gave us more confidence going into the corresponding exam on the same diagrams.

We also implemented the time boxing technique that was mentioned in one of our lectures to improve the flow of the project and not get too bogged down on any one section. This technique will serve us well moving forward.

An embarrassing learning outcome would be to read the functional specification fully in all future projects, as initially we omitted this learning outcome from our initial submission. This is something that will stick with each of us and hopefully prevent a similar occurrence from happening in the future.

We are sure that there will be many more things to learn from our future projects and are fully looking forward to the experience and the challenges to come.