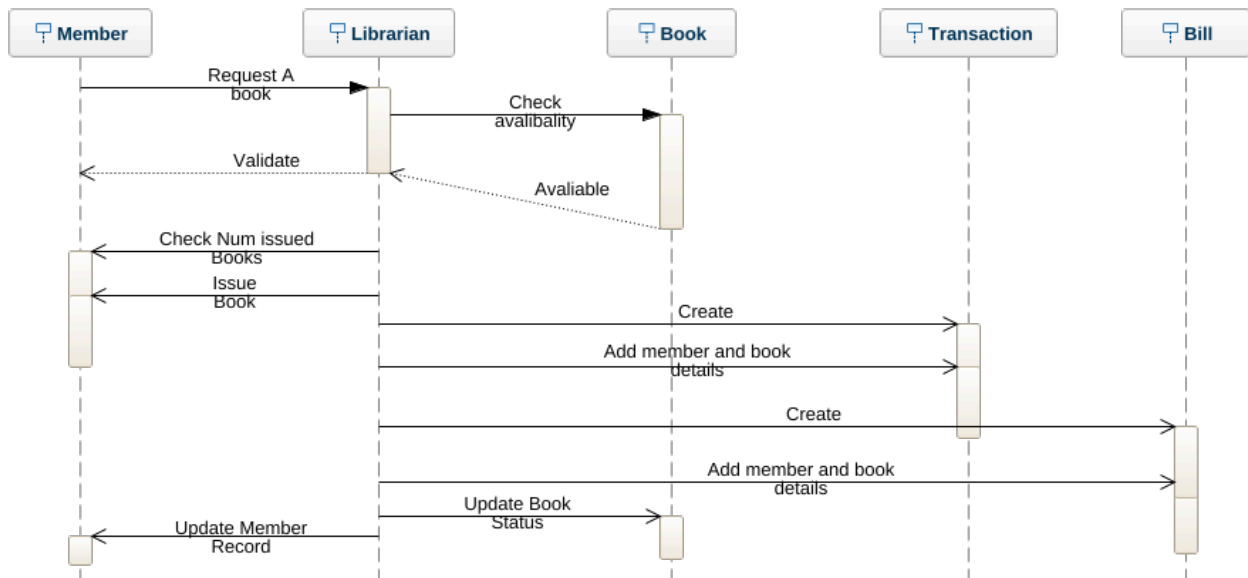




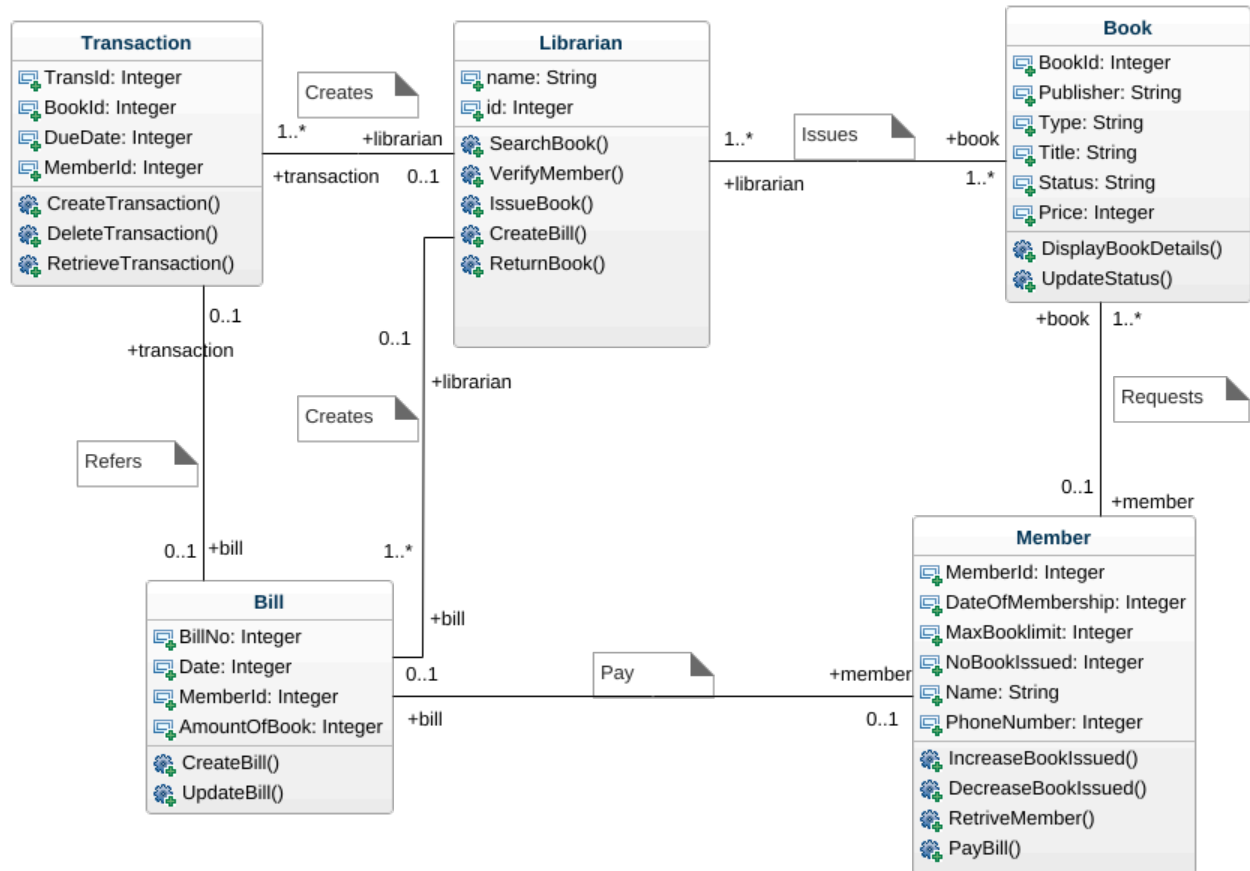
Author: Haneen -Ibrahim

Date: 2022-09-23

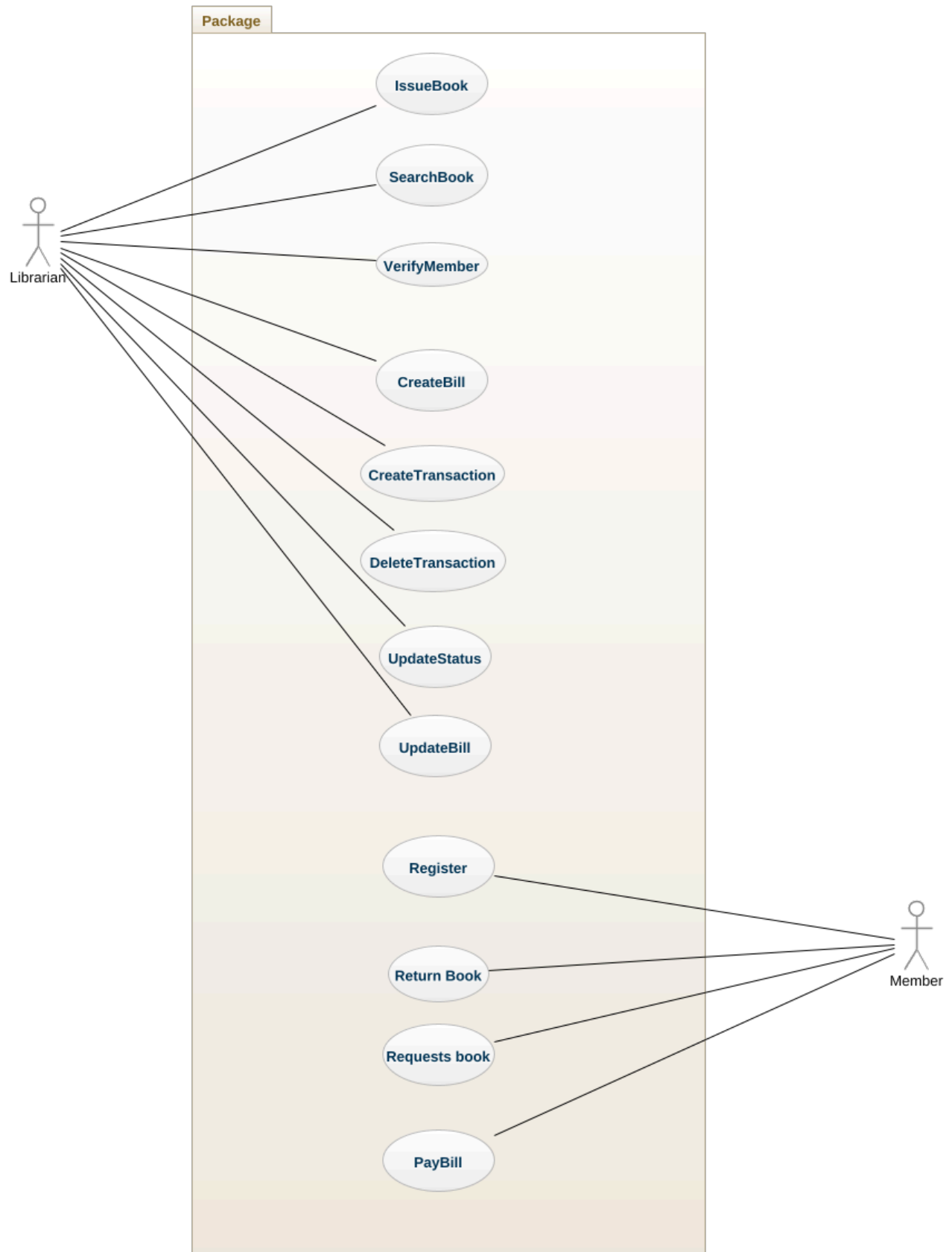
Library Managment System (Model)



sequence-diagram

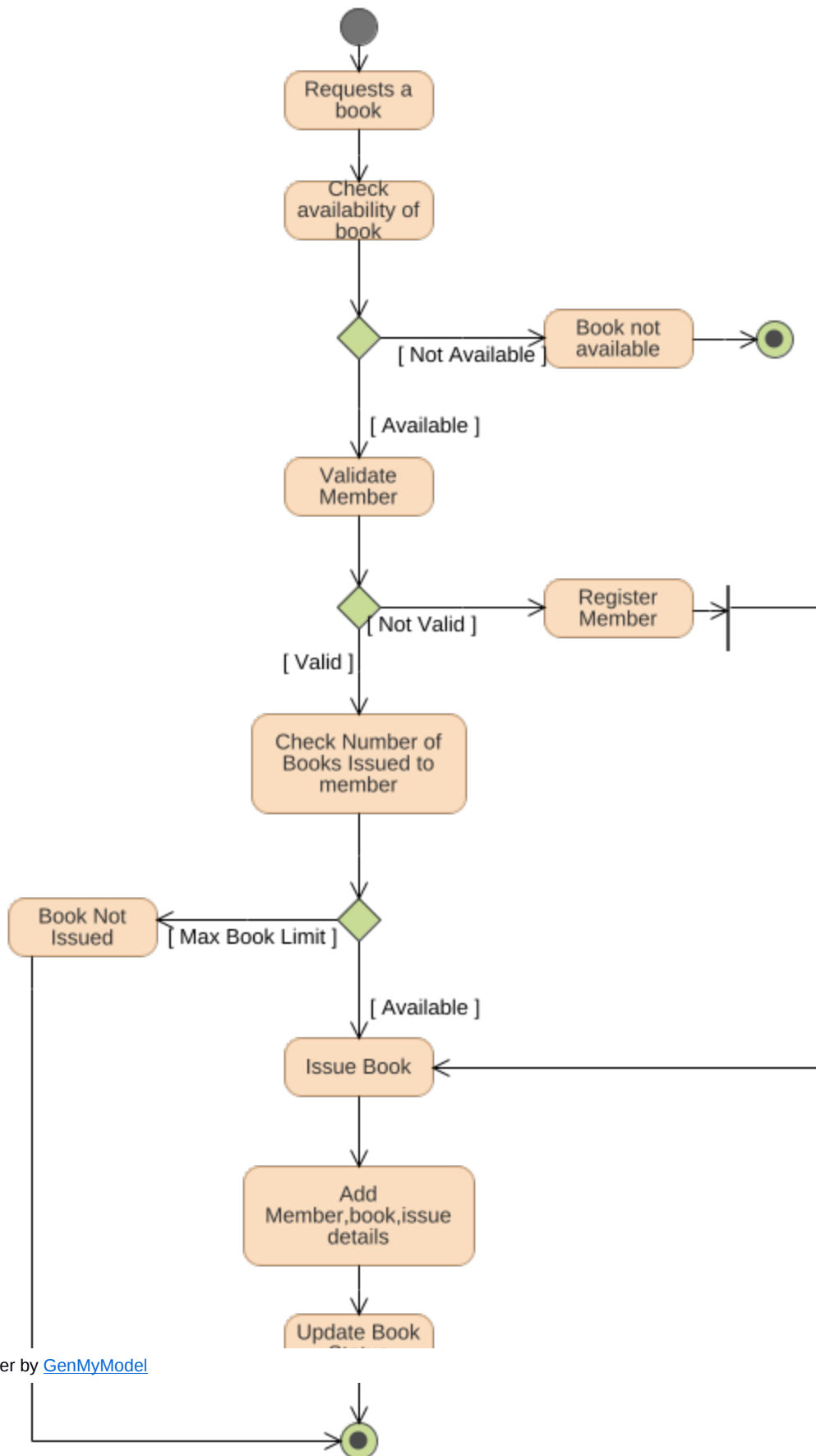


class-diagram



usecase-diagram

1. Activity (Activity)



activity-diagram

In Library Managment System

1.1. ActivityFinalNode (ActivityFinalNode)

In Library Managment System::Activity

1.2. ActivityFinalNode2 (ActivityFinalNode)

In Library Managment System::Activity

1.3. Add Member,book,issue details (OpaqueAction)

In Library Managment System::Activity

1.4. Book Not Issued (OpaqueAction)

In Library Managment System::Activity

1.5. Book not available (OpaqueAction)

In Library Managment System::Activity

1.6. Check Number of Books Issued to member (OpaqueAction)

In Library Managment System::Activity

1.7. Check availability of book (OpaqueAction)

In Library Managment System::Activity

1.8. DecisionNode (DecisionNode)

In Library Managment System::Activity

1.9. DecisionNode2 (DecisionNode)

In Library Managment System::Activity

1.10. DecisionNode3 (DecisionNode)

In Library Managment System::Activity

1.11. InitialNode (InitialNode)

In Library Managment System::Activity

1.12. Issue Book (OpaqueAction)

In Library Managment System::Activity

1.13. JoinNode (JoinNode)

In Library Managment System::Activity

1.14. Register Member (OpaqueAction)

In Library Managment System::Activity

1.15. Requests a book (OpaqueAction)

In Library Managment System::Activity

1.16. Update Book Status (OpaqueAction)

In Library Managment System::Activity

1.17. Validate Member (OpaqueAction)

In Library Managment System::Activity

2. Bill (Class)

In Library Managment System

Attributes
BillNo : Integer [1]
Date : Integer [1]
MemberId : Integer [1]
AmountOfBook : Integer [1]
Operations
CreateBill
UpdateBill
Associations
Member_Bill - member : Member [0..1] - see definition
Transaction_Bill - transaction : Transaction [0..1] - see definition
Librarian_Bill - librarian : Librarian [0..1] - see definition

3. Book (Class)

In Library Managment System

Attributes
BookId : Integer [1]
Publisher : String [1]
Type : String [1]
Title : String [1]
Status : String [1]
Price : Integer [1]

Operations
DisplayBookDetails
UpdateStatus
Associations
Librarian_Book - librarian : Librarian [1..*] - see definition
Member_Book - member : Member [0..1] - see definition

4. Interaction (Interaction)

In Library Management System

5. Librarian (Class)

In Library Management System

Attributes
name : String [1]
id : Integer [1]
Operations
SearchBook
VerifyMember
IssueBook
CreateBill
ReturnBook
Associations
Transaction_Librarian - transaction : Transaction [1..*] - see definition
Librarian_Book - book : Book [1..*] - see definition
Librarian_Bill - bill : Bill [1..*] - see definition

6. Librarian (Actor)

In Library Management System

Associations
Librarian_IssueBook - issueBook : IssueBook [0..1] - see definition
Librarian_SearchBook - searchBook : SearchBook [0..1] - see definition
Librarian_DeleteTransaction - deleteTransaction : DeleteTransaction [0..1] - see definition
Librarian_VerifyMember - verifyMember : VerifyMember [0..1] - see definition
Librarian_CreateTransaction - createTransaction : CreateTransaction [0..1] - see definition

Associations
Librarian_UpdateBill - updateBill : UpdateBill [0..1] - see definition
Librarian_UpdateStatus - updateStatus : UpdateStatus [0..1] - see definition
Librarian_CreateBill - createBill : CreateBill [0..1] - see definition

7. Member (Class)

In Library Managment System

Attributes
MemberId : Integer [1]
DateOfMembership : Integer [1]
MaxBooklimit : Integer [1]
NoBookIssued : Integer [1]
Name : String [1]
PhoneNumber : Integer [1]
Operations
IncreaseBookIssued
DecreaseBookIssued
RetriveMember
PayBill
Associations
Member_Bill - bill : Bill [0..1] - see definition
Member_Book - book : Book [1..*] - see definition

8. Member (Actor)

In Library Managment System

Associations
Member_Register - register : Register [0..1] - see definition
Member_PayBill - payBill : PayBill [0..1] - see definition
Member_Return Book - return Book : Return Book [0..1] - see definition
Member_Requests book - requests book : Requests book [0..1] - see definition

9. Transaction (Class)

In Library Managment System

Attributes
TransId : Integer [1]
BookId : Integer [1]
DueDate : Integer [1]
MemberId : Integer [1]
Operations
CreateTransaction
DeleteTransaction
RetrieveTransaction
Associations
Transaction_Librarian - librarian : Librarian [0..1] - see definition
Transaction_Bill - bill : Bill [0..1] - see definition

10. Package (Package)

In Library Managment System

10.1. CreateBill (UseCase)

In Library Managment System::Package

Associations
Librarian_CreateBill - librarian : Librarian [0..1] - see definition

10.2. CreateTransaction (UseCase)

In Library Managment System::Package

Associations
Librarian_CreateTransaction - librarian : Librarian [0..1] - see definition

10.3. DeleteTransaction (UseCase)

In Library Managment System::Package

Associations
Librarian_DeleteTransaction - librarian : Librarian [0..1] - see definition

10.4. IssueBook (UseCase)

In Library Managment System::Package

Associations
Librarian_IssueBook - librarian : Librarian [0..1] - see definition

10.5. PayBill (UseCase)

In Library Managment System::Package

Associations
Member_PayBill - member : Member [0..1] - see definition

10.6. Register (UseCase)

In Library Managment System::Package

Associations
Member_Register - member : Member [0..1] - see definition

10.7. Requests book (UseCase)

In Library Managment System::Package

Associations
Member_Requests book - member : Member [0..1] - see definition

10.8. Return Book (UseCase)

In Library Managment System::Package

Associations
Member_Return Book - member : Member [0..1] - see definition

10.9. SearchBook (UseCase)

In Library Managment System::Package

Associations
Librarian_SearchBook - librarian : Librarian [0..1] - see definition

10.10. UpdateBill (UseCase)

In Library Managment System::Package

Associations
Librarian_UpdateBill - librarian : Librarian [0..1] - see definition

10.11. UpdateStatus (UseCase)

In Library Managment System::Package

Associations
Librarian_UpdateStatus - librarian : Librarian [0..1] - see definition

10.12. VerifyMember (UseCase)

In Library Managment System::Package

Associations

Librarian_VerifyMember - librarian : Librarian [0..1] - see [definition](#)