# CRC Cards for Automated Library Assistant

## Problem-specific Classes

1. Member
2. LibraryAdmin
3. DBMSConnectivity
4. Transaction
5. Item
6. ReserveList

|  |  |
| --- | --- |
| **Class Name:** Member | |
| **Super classes:** | |
| **Subclasses:** | |
| **Responsibility** | **Collaborator** |
| Knows its member ID, name, email, phone no. address, start date of membership, total fine, total no. of items ( fiction/non-fiction/video ) issued |  |
| Allows to select members from database tables | DBMSConnectivity |
| Allows updating member details (no of books checked out etc.) | DBMSConnectivity |

|  |  |
| --- | --- |
| **Class Name:** LibraryAdmin | |
| **Super classes:** | |
| **Subclasses:** | |
| **Responsibility** | **Collaborator** |
| Knows its login and password | DBMSConnectivity |

|  |  |
| --- | --- |
| **Class Name:** DBMSConnectivity | |
| **Super classes:** | |
| **Subclasses:** | |
| **Responsibility** | **Collaborator** |
| Allows to make connection with data base |  |

|  |  |
| --- | --- |
| **Class Name:** Transaction | |
| **Super classes:** | |
| **Subclasses:** | |
| **Responsibility** | **Collaborator** |
| Knows the transaction details (Member ID, item number, item title, start date and end date of the transactions, transaction type, fines paid) | Item, Member |
| Allows to select transactions from database | DBMSConnectivity |
| Allows updating transaction details (fine etc.) | DBMSConnectivity |

|  |  |
| --- | --- |
| **Class Name:** Item | |
| **Super classes:** | |
| **Subclasses:** | |
| **Responsibility** | **Collaborator** |
| Knows its item Number, title, author, price, status, item type (fiction/non-fiction/video), category(arts/science) and location (shelf no.) and acquire date |  |
| Allows to select items from database tables | DBMSConnectivity |
| Allows updating item details (status etc.) | DBMSConnectivity |

|  |  |
| --- | --- |
| **Class Name:** ReserveList | |
| **Super classes:** | |
| **Subclasses:** | |
| **Responsibility** | **Collaborator** |
| Knows its item Number, member ID, member email, inDate and item type (fiction/non-fiction/video), category(arts/science) and location (shelf no.) and acquire date |  |
| Allows to select items from database tables | DBMSConnectivity |
| Allows updating item details (status etc.) | DBMSConnectivity |

## Presentation-specific Classes

1. CheckOutItem
2. ReturnItem
3. ReserveItem
4. PayFine
5. TransactionHistory
6. GetMembershipView
7. Claims
8. FindTotalItems
9. FindTotalMembers
10. FindItemCurrentlyOut
11. FindItemCheckedOutMost
12. FindTotalFine

|  |  |
| --- | --- |
| **Class Name:** CheckOutItem | |
| **Super classes:** | |
| **Subclasses:** | |
| **Responsibility** | **Collaborator** |
| Validates member ID and item number | Item, Member, DBMSConnectivity |
| Allows to check out an item | Item, Member, Transaction, DBMSConnectivity |

|  |  |
| --- | --- |
| **Class Name:** ReturnItem | |
| **Super classes:** | |
| **Subclasses:** | |
| **Responsibility** | **Collaborator** |
| Validates member ID and item number | Item, Member, DBMSConnectivity |
| Allows to return an item | Item, Member, Transaction, DBMSConnectivity |

|  |  |
| --- | --- |
| **Class Name:** ReserveItem | |
| **Super classes:** | |
| **Subclasses:** | |
| **Responsibility** | **Collaborator** |
| Validates member ID and item number | Item, Member, DBMSConnectivity |
| Allows to reserve an item | Item, Member, Transaction, DBMSConnectivity |

|  |  |
| --- | --- |
| **Class Name:** PayFine | |
| **Super classes:** | |
| **Subclasses:** | |
| **Responsibility** | **Collaborator** |
| Validates member ID | Member, DBMSConnectivity |
| Allows to pay fine | Member, Transaction, DBMSConnectivity |

|  |  |
| --- | --- |
| **Class Name:** TransactionHistory | |
| **Super classes:** | |
| **Subclasses:** | |
| **Responsibility** | **Collaborator** |
| Validates member ID | Member, DBMSConnectivity |
| Allows to view transaction history | Member, Transaction, DBMSConnectivity |

|  |  |
| --- | --- |
| **Class Name:**GetMembershipView | |
| **Super classes:** | |
| **Subclasses:** | |
| **Responsibility** | **Collaborator** |
| Allows to get membership | Member, DBMSConnectivity |

|  |  |
| --- | --- |
| **Class Name:** Claims | |
| **Super classes:** | |
| **Subclasses:** | |
| **Responsibility** | **Collaborator** |
| Validates member ID and item number | Item, Member, DBMSConnectivity |
| Allows to claim an item to be lost | Item, Member, Transaction, DBMSConnectivity |

|  |  |
| --- | --- |
| **Class Name:** FindTotalItems | |
| **Super classes:** | |
| **Subclasses:** | |
| **Responsibility** | **Collaborator** |
| Validates password | DBMSConnectivity |
| Displays total no of items in each category | LibrarySystemGUI, DBMSConnectivity |

|  |  |
| --- | --- |
| **Class Name:** FindTotalMembers | |
| **Super classes:** | |
| **Subclasses:** | |
| **Responsibility** | **Collaborator** |
| Validates password | DBMSConnectivity |
| Displays total no of members | LibrarySystemGUI, Member, DBMSConnectivity |

|  |  |
| --- | --- |
| **Class Name:** FindItemCurrentlyOut | |
| **Super classes:** | |
| **Subclasses:** | |
| **Responsibility** | **Collaborator** |
| Validates password | DBMSConnectivity |
| Displays total number of items currently out | LibrarySystem, Item |

|  |  |
| --- | --- |
| **Class Name:** FindItemCheckedOutMost | |
| **Super classes:** | |
| **Subclasses:** | |
| **Responsibility** | **Collaborator** |
| Validates password | DBMSConnectivity |
| Displays title of the item checked out the most | LibrarySystemGUI, Transaction, DBMSConnectivity |

|  |  |
| --- | --- |
| **Class Name:** FindTotalFine | |
| **Super classes:** | |
| **Subclasses:** | |
| **Responsibility** | **Collaborator** |
| Validates password | DBMSConnectivity |
| Displays total amount of fine for specific time period | LibrarySystemGUI, Transaction, DBMSConnectivity |