SYSTEM ANALYSIS AND DESIGN ASSIGNMENT.

LIBRARY SYSTEM

1.Use case Diagram

Actors:

* User
* Librarian

Use Cases:

* Register Account
* Login
* Search Material
* Borrow Material
* Return Material
* View Borrowed Items
* Manage Materials (for Librarian)

2. Sequence Diagram (Borrowed Material)

Actors:

* User
* Librarian
* Librarian System

Steps:

* User logs in to the librarian system.
* User searches for a material.
* Library System displays search results.
* User selects a material to borrow.
* Library system checks availability.
* If available, librarian confirms the borrowing.
* Library System updates records.

3. Class Diagram

Classes:

1. User

* Attributes: userId, name, email, password
* Methods: register(), login(), searchMaterial(), borrowMaterial(), returnMaterial(), viewBorrowedItems()

1. Material

* Attributes: materialId, title, author, availability
* Methods: checkAvailability()

1. Librarian (inherits from User)

* Attributes: employeeId
* Methods: manageMaterials()

1. Library System

* Attributes: users, materials
* Methods: authenticatUser(), searchMaterials(), updateRecord()