

LIBRARY MANAGEMENT SYSTEM

SOFTWARE REQUIREMENTS SPECIFICATION

30/09/24

Lab 1
Software Requirement Specification

1.) Library management system

1.1) Introduction

This document defines the requirement for a modern library management system that supports both physical and digital resources, enabling different inventory management, user access and remote services.

1.2) Purpose of this document

This document contains LMS functionalities which includes managing books, cataloging, user management and tracking expenses. The overall estimated cost of this project is \$10000 with a projected timeline of 3 months for completion.

1.3) Overview

This is a software solution to manage all the library operations including loans, cataloging, tracking and management.

2.) General description

User objective: Facilitate easy access to library resources, manage user accounts, and streamline lending processes.

User characteristics: Librarians, library staff and patrons with varying levels of technical expertise.

Features: Catalog management, user registration, search functionality, loan tracking and reporting tools.

Benefits: Improved efficiency in library operations and enhanced user experience.

Importance: Essential for modern libraries to manage resources effectively.

3.) Functional Requirements

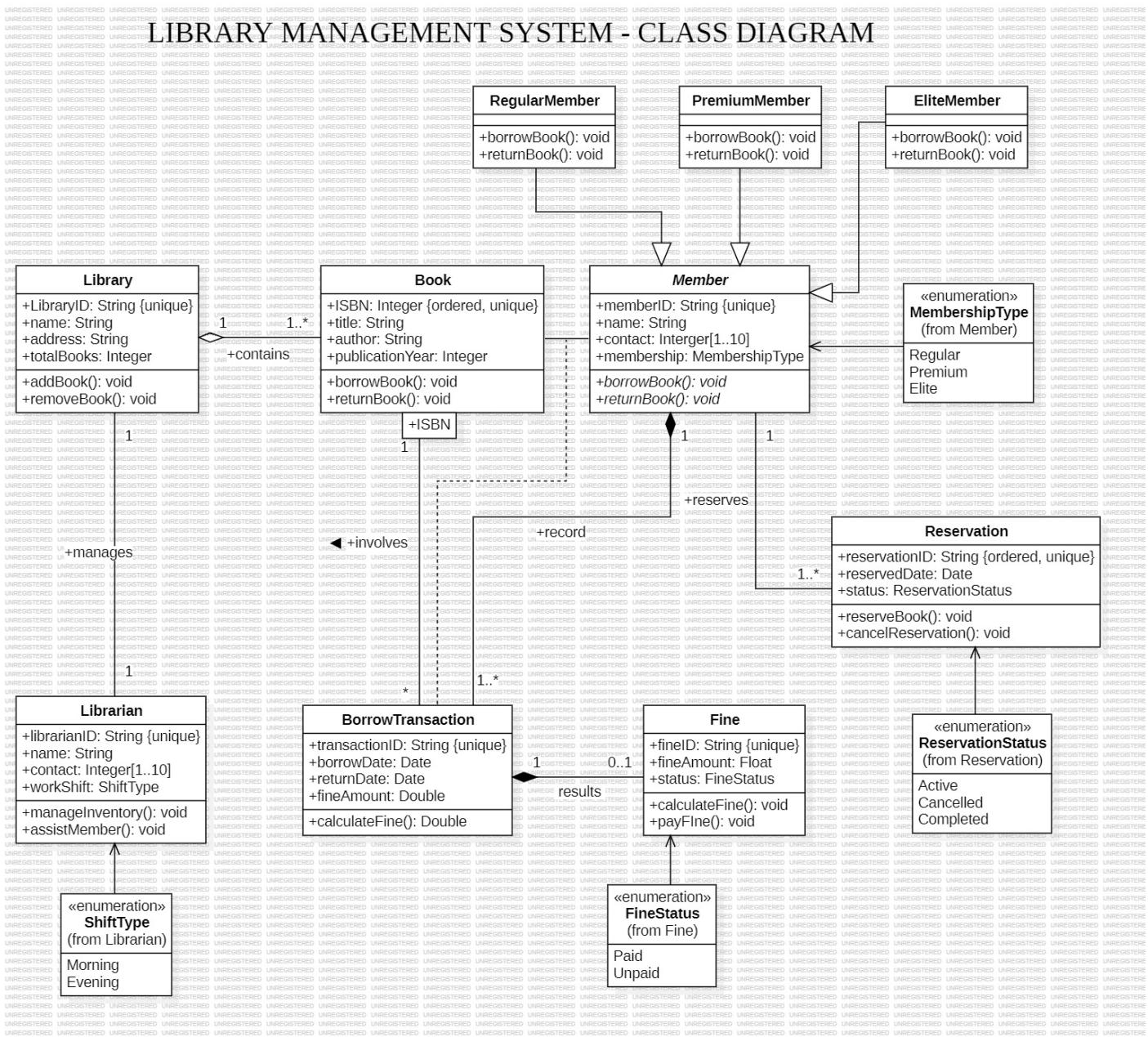
(i) User registration and management
(ii) Book catalog management (Add, update, delete)
(iii) Loan tracking and notification
(iv) Search functionality for books and users
(v) Reporting on book usage and inventory

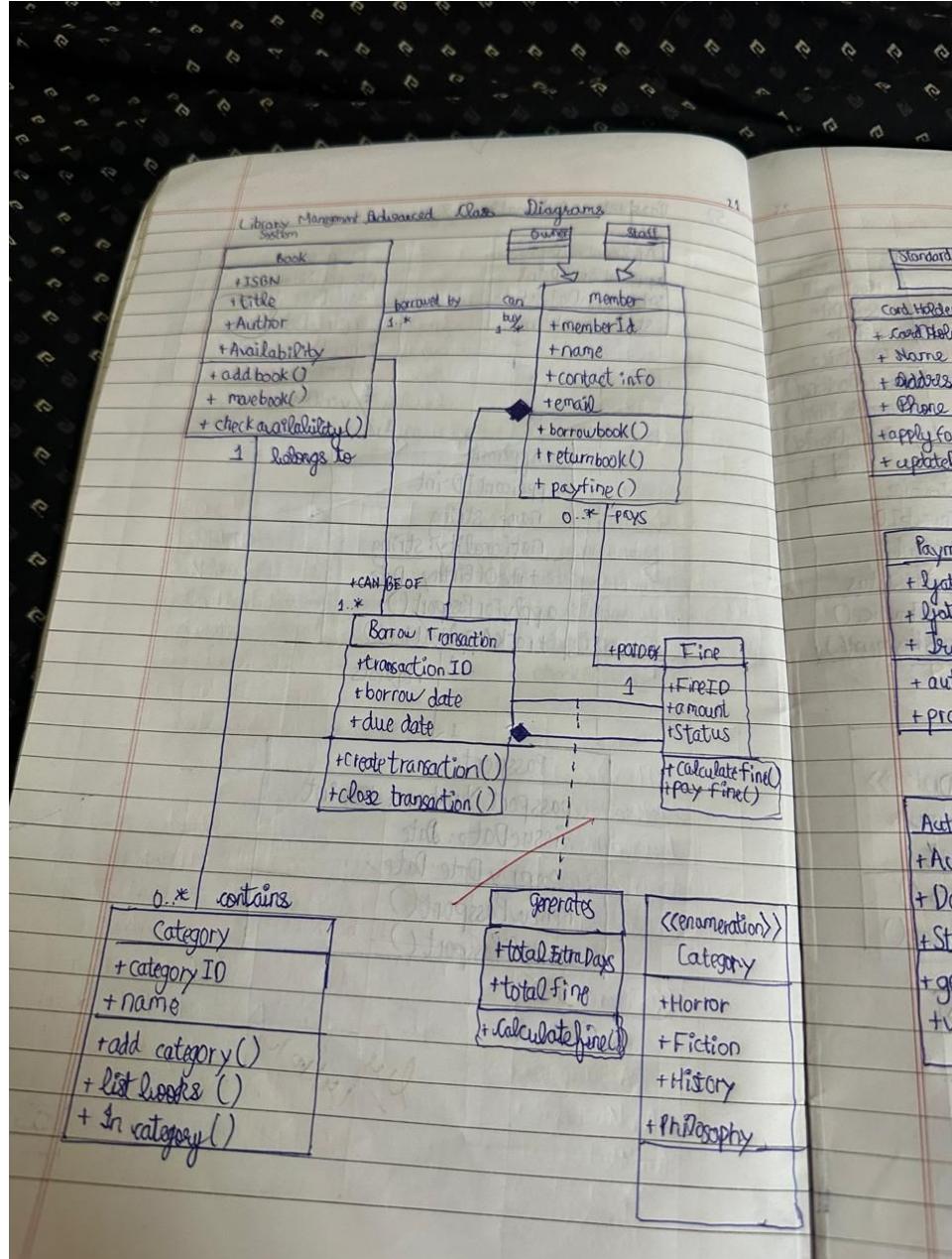
- 4) Interface Requirements
- (i) User interface: Web based interface for librarians and patrons
 - (ii) Integration: API's for third party cataloging and payment systems
- 5) Performance Requirements
- (i) Response time: < 2 seconds for user queries
 - (ii) Memory usage: Optimized for low resource environments
- 6) Design Constraints
- (i) Must utilize a relational database for cataloging
 - (ii) Compatibility with existing library management hardware
- 7) Non Functional Attributes
- (i) Security: User data encryption and secure access protocols
 - (ii) Reliability: 99.9% uptime requirement.

- 8) Preliminary schedule and Budget
- (i) Estimated time: 3 months
 - (ii) Budget: \$10000

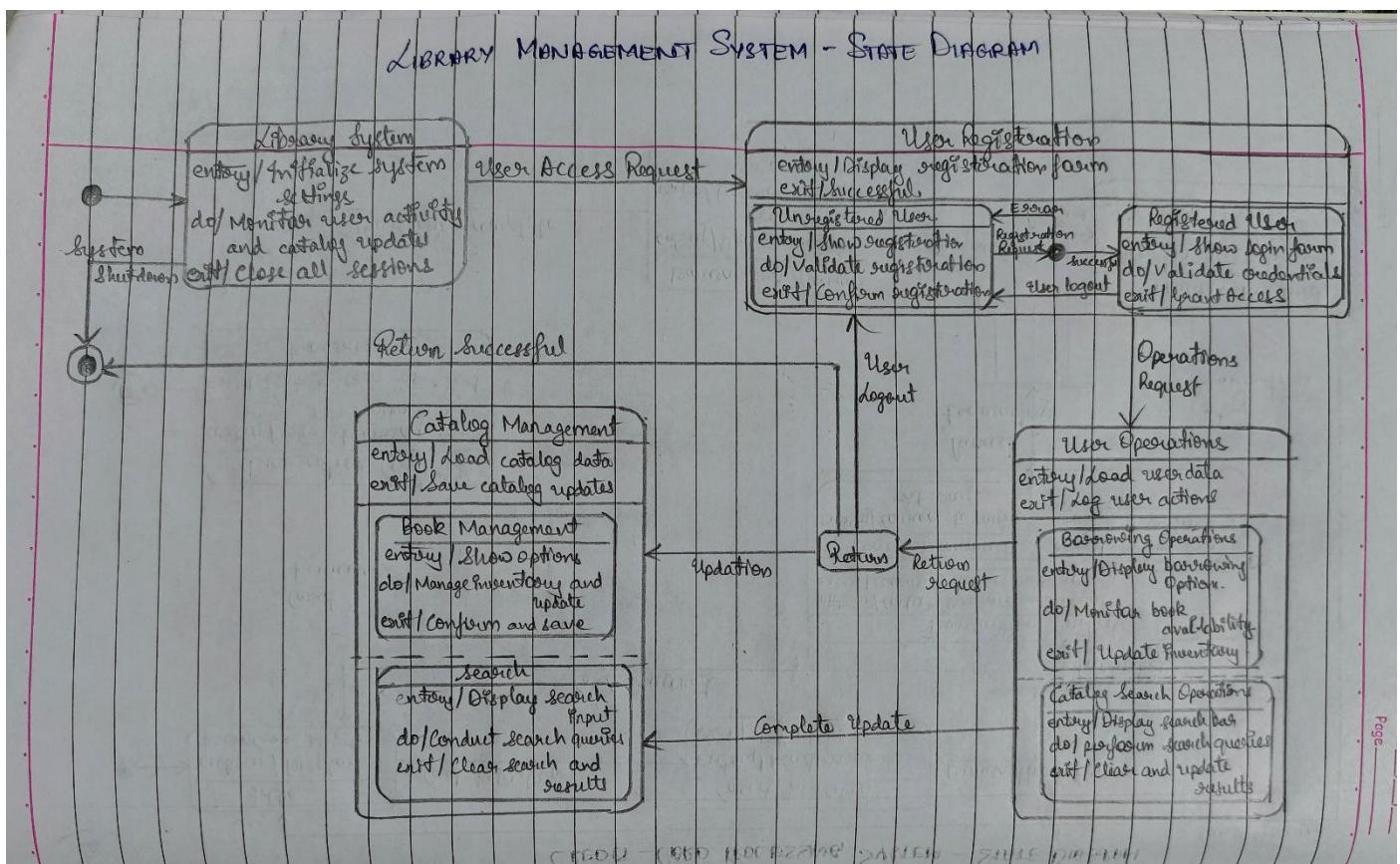
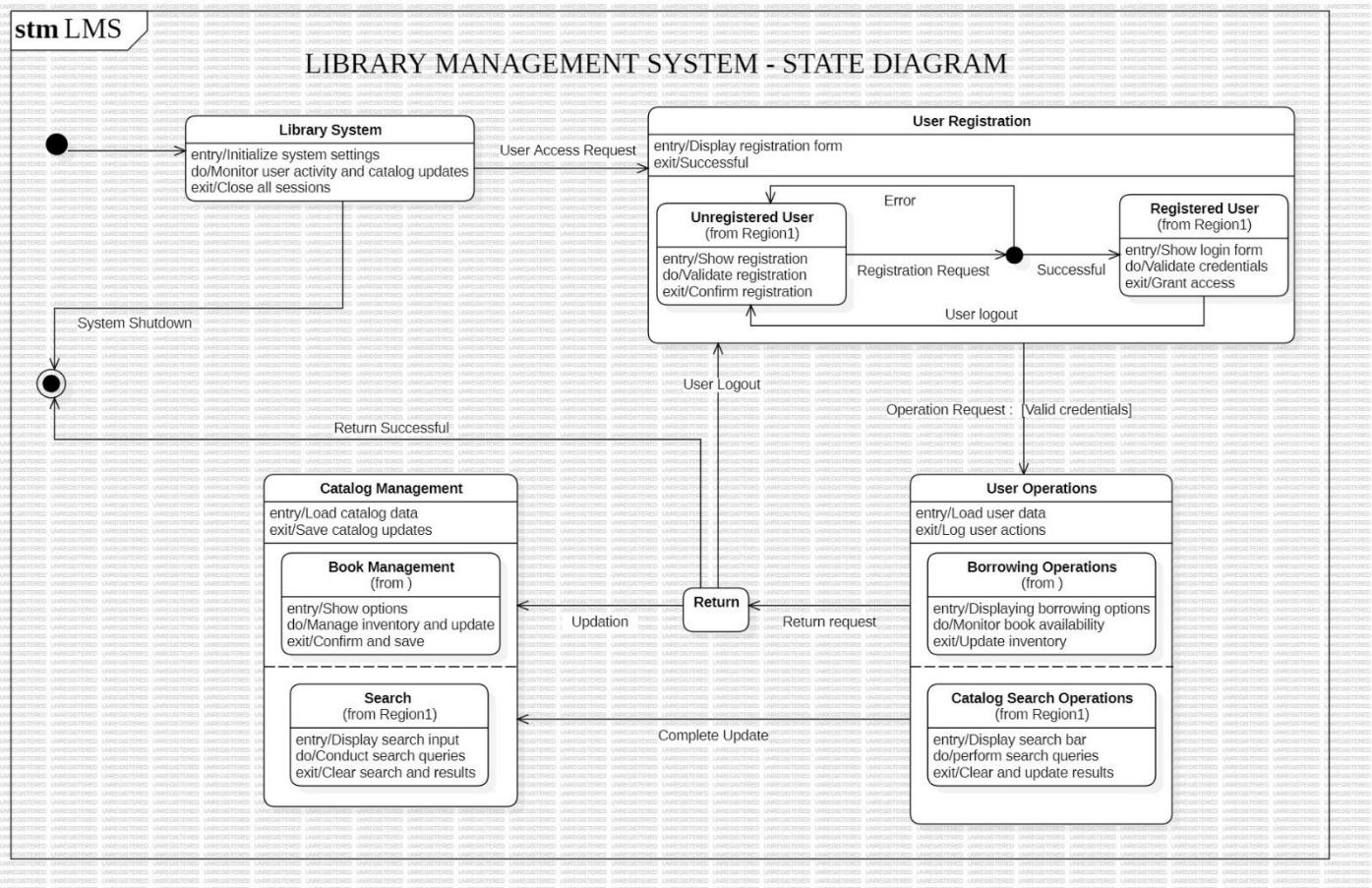
UML DIAGRAMS

CLASS DIAGRAM

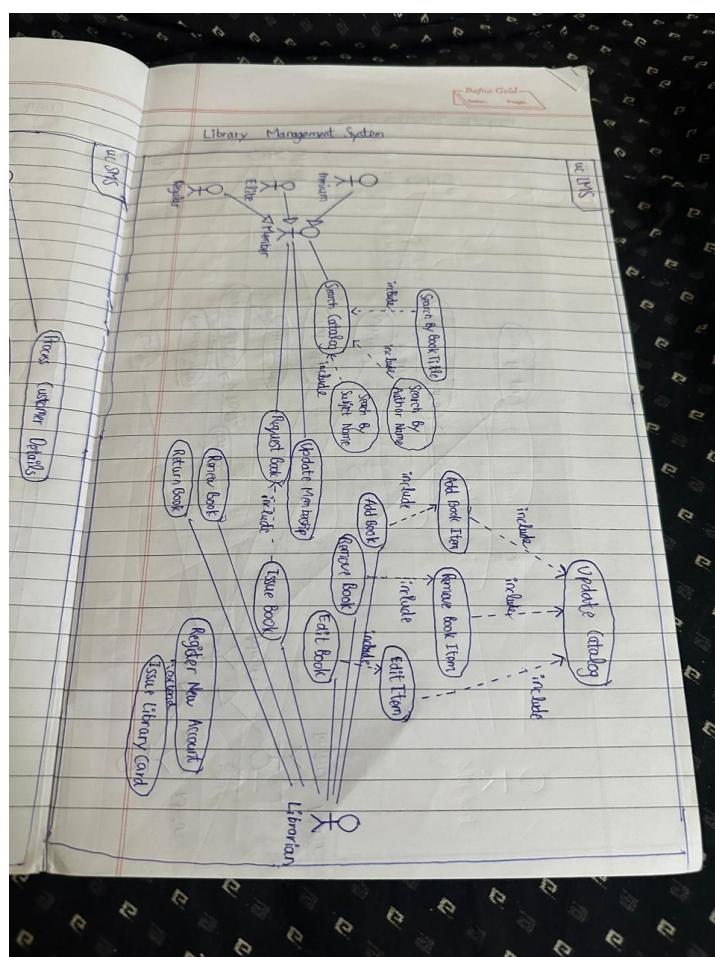
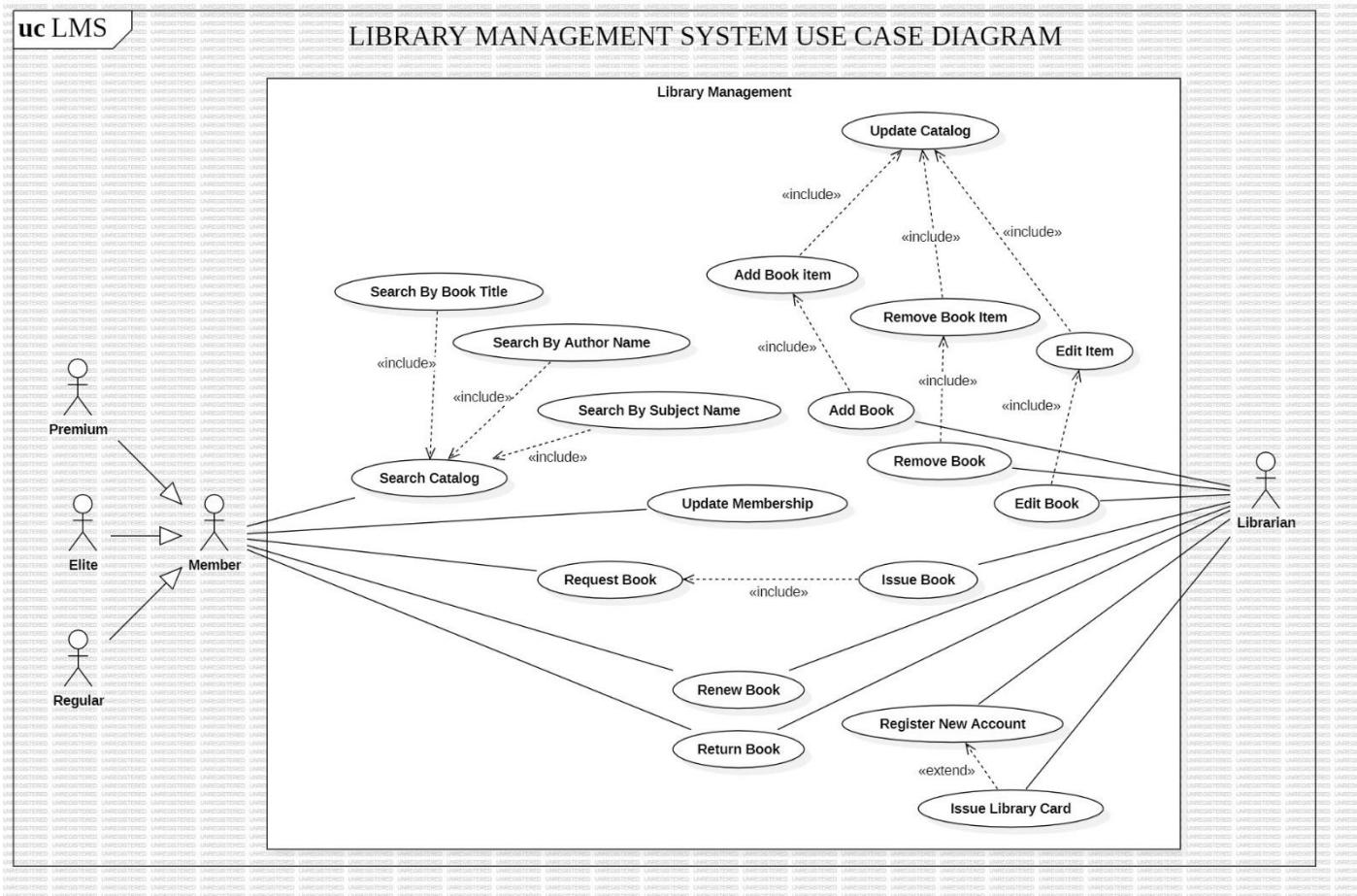




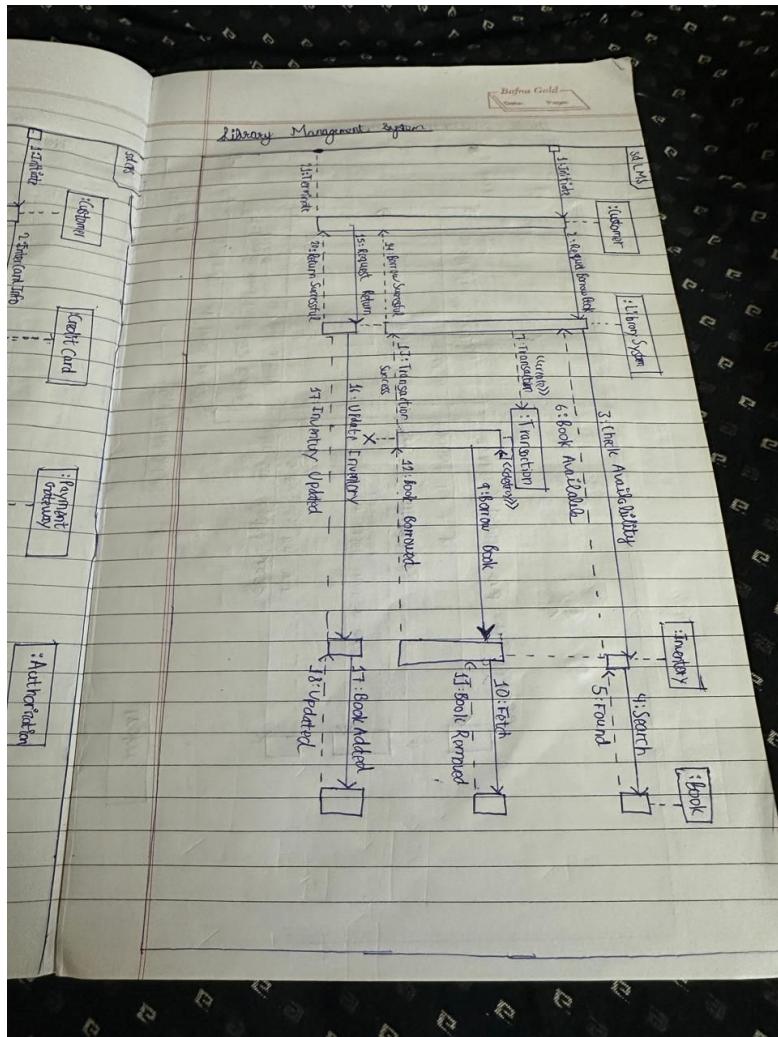
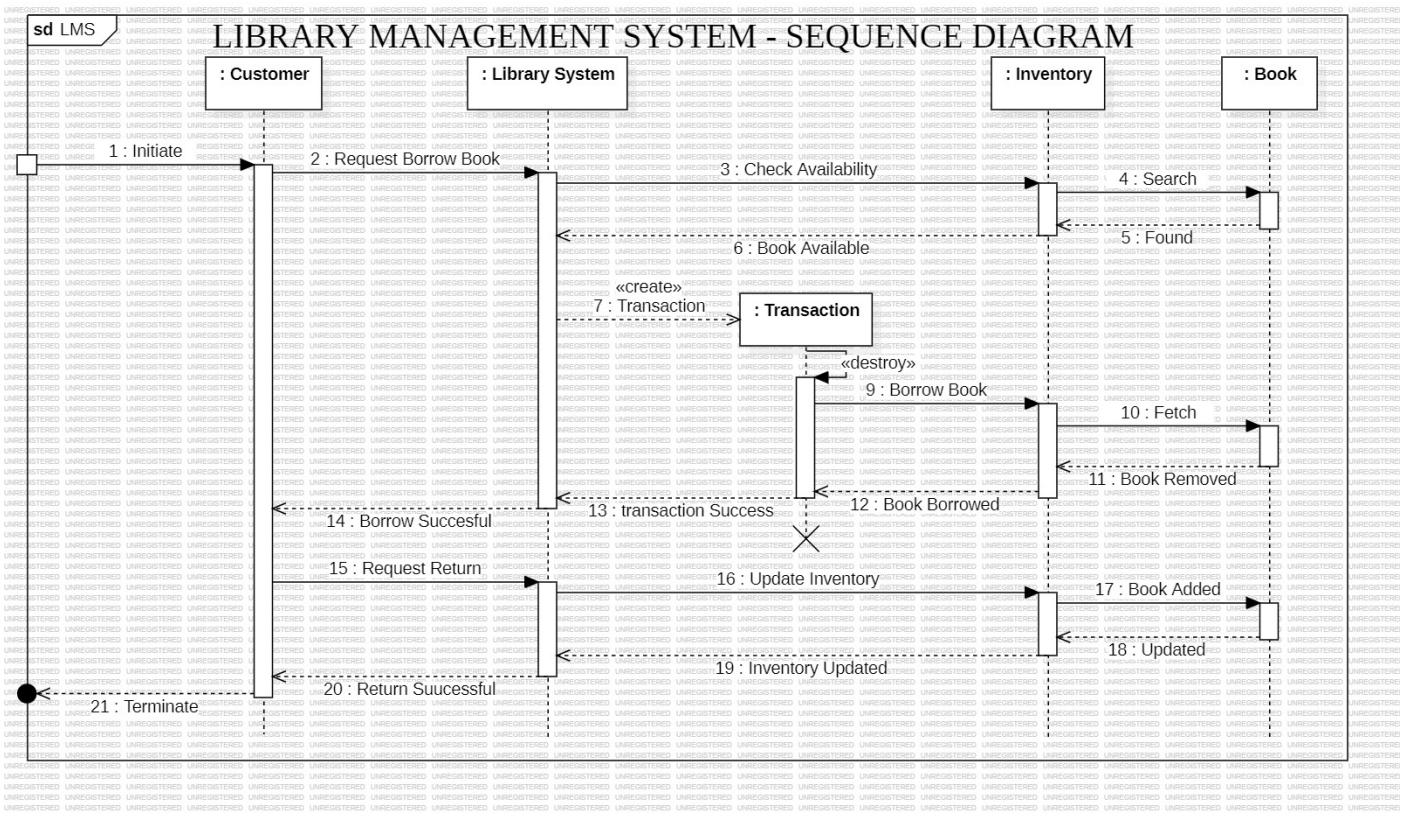
STATE DIAGRAM



USE CASE DIAGRAM



SEQUENCE DIAGRAM



ACTIVITY DIAGRAM

