Software Requirement Specification
of
Book Bank System

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1.0 INTRODUCTION

Book Bank is the interface between the students and Librarian. It aims at improving the efficiency in the Issue of books or magazines and reduce the complexities involved in it to the maximum possible extent.

1.1 PURPOSE

If the entire process of 'Issue of Books or Magazines' is done in a manual manner then it would take several months for the books or magazines to reach the applicant. Considering the fact that the number of students for Book Bank is increasing every year, an Automated System becomes essential to meet the demand. So this system uses several programming and database techniques to elucidate the work involved in this process. The system has been carefully verified and validated in order to satisfy it.

1.2 SCOPE

The System provides an online interface to the user where they can fill in their personal details and submit the necessary documents (may be by scanning). The authority concerned with the issue of books can use this system to reduce his workload and process the application in a speedy manner.

1.3 DEFINITIONS, ACRONYMS AND THE ABBREVIATIONS

- **Librarian** - Refers to the super user who is the Central Authority who has been vested with the privilege to manage the entire system.
- **Student** - One who wishes to obtain the Books or Magazines.
- **HTML** - Markup Language used for creating web pages.
- **J2EE** - Java 2 Enterprise Edition is a programming platform and it is the part of the java platform for developing and running distributed java applications.
- **HTTP** - Hyper Text Transfer Protocol
- **TCP/IP** - Transmission Control Protocol/Internet Protocol is the communication protocol used to connect hosts on the Internet.

1.4 REFERENCES

IEEE Software Requirement Specification format.

1.5 TECHNOLOGIES TO BE USED

- Visual Basic
- Oracle 11g

1. 6 TOOLS TO BE USED

- Visual Basic Tools
- Rational Rose tool (for developing UML Patterns)

2.0. DESCRIPTION

2.1 PRODUCT PERSPECTIVE

The BBS acts as an interface between the 'Students' and the 'Librarian'. This system tries to make the interface as simple as possible and at the same time not risking the security of data stored in. This minimizes the time duration in which the user receives the books or magazines.

2.2 SOFTWARE INTERFACE

- **Front End Client** - The Student and Librarian online interface is built using Visual studio.
- **Back End** - Oracle 11 g database

2.3 HARDWARE INTERFACE

The server is directly connected to the client systems. The client systems have access to the database in the server.

2.4 FUNCTIONAL REQUIREMENTS:

a) *View book details*

The librarian or member initiates this use case when they returns or request the book and checking if the book is available.The user should enter all Book details .

b) *Book issue*

Initiated by librarian when any member wants to borrow the desired book. If the book is available, the book is issued. Member should be valid member of library. After book issue, it should update the catalogue.

c) *Book return*

Invoked by the librarian when a member returns the book. Member should be valid member of library. Librarian enters bookid and system checks for return date of the book. If it returned late fine message shows.

d) *Modify Book Details*

It is used when new books or magazines are added to the library. Librarian enter bookid, author information, publication information, purchased date, prize and number of copies. It will update the information in catalogue.

2.5 NONFUNCTIONAL REQUIREMENTS:-

a) *Performance Requirements*

Performance requirements define acceptable response times for system functionality.

1. The load time for user interface screens shall take no longer than two seconds.
2. The log in information shall be verified within two seconds.
3. Queries shall return results within five seconds.

b) *Security and Safety Requirements*

Security: The files in which the information regarding securities and portfolios should be secured against malicious deformations.

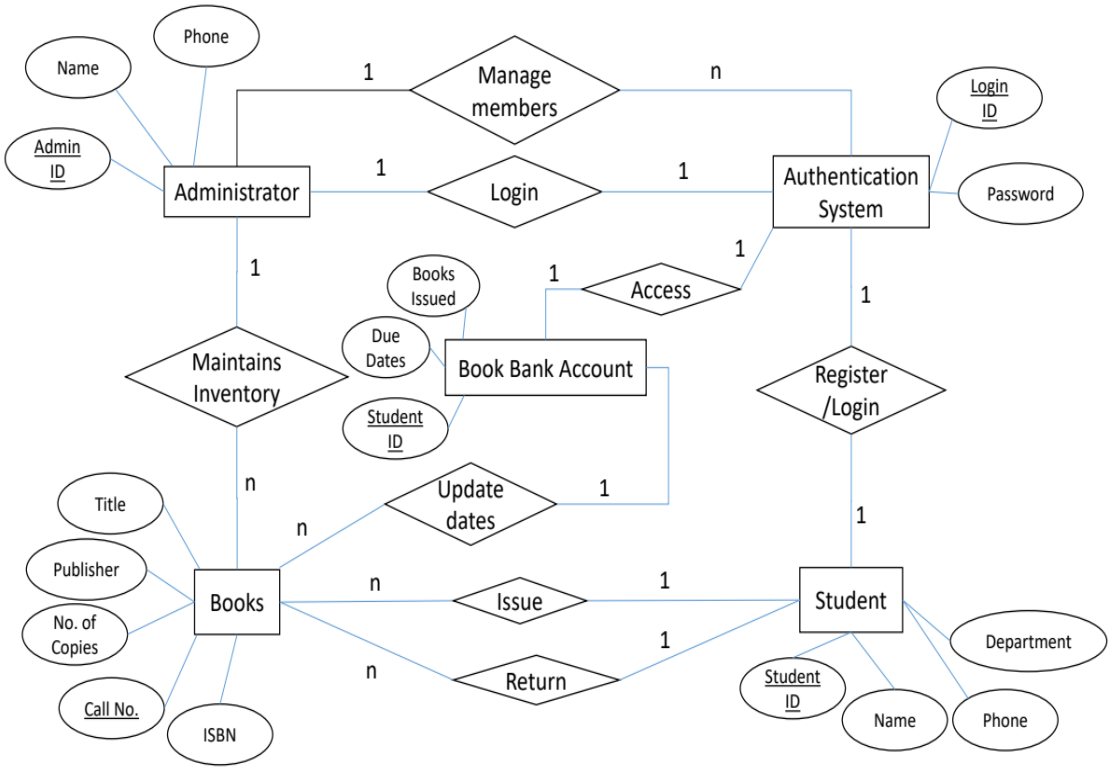
Fault Tolerance: Data should not become corrupted in case of system crash or power failure.

c) *Business Rules*

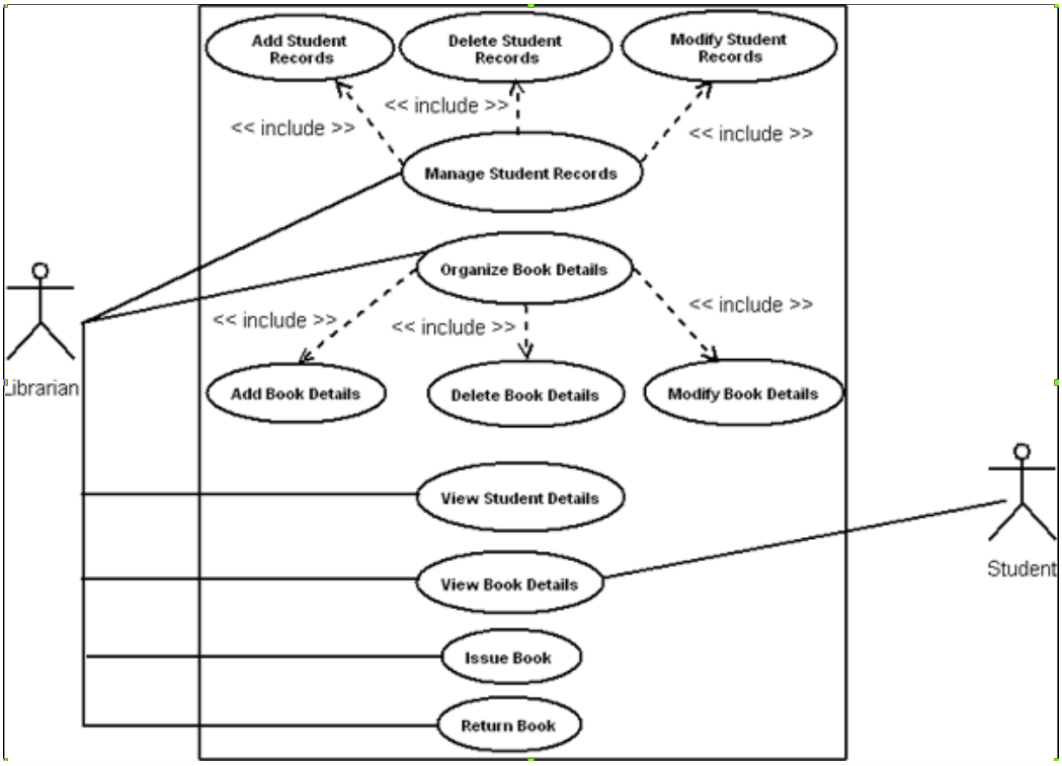
Server Administrator: under extreme circumstances the administrator has the privileges to back up the data's but can't modify the contents.

3.0 DIAGRAM

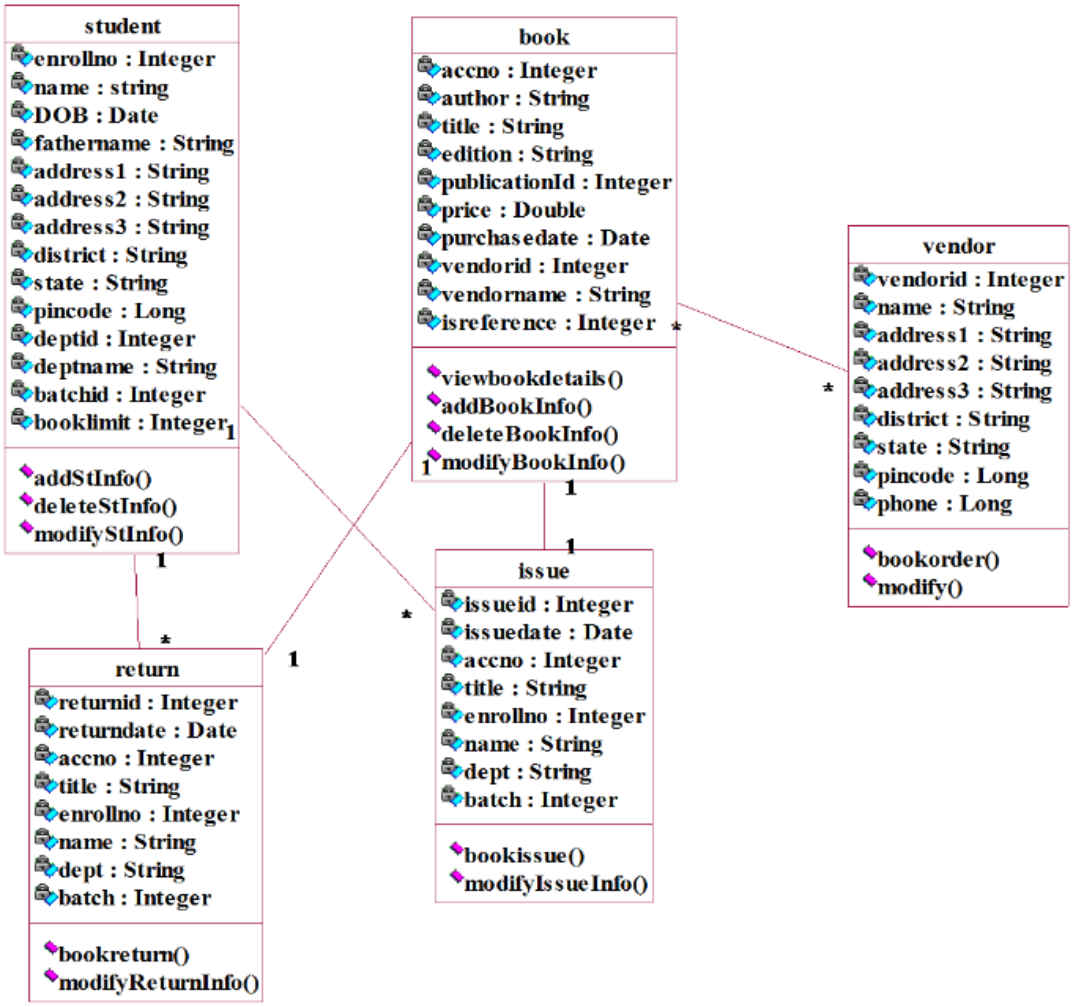
3.1 E-R DIAGRAM



3.2 USE CASE DIAGRAM

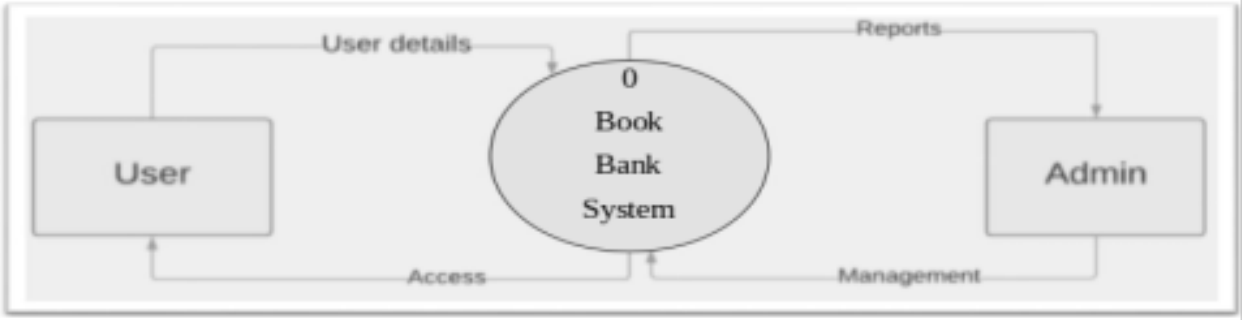


3.3 UML CLASS DIAGRAM

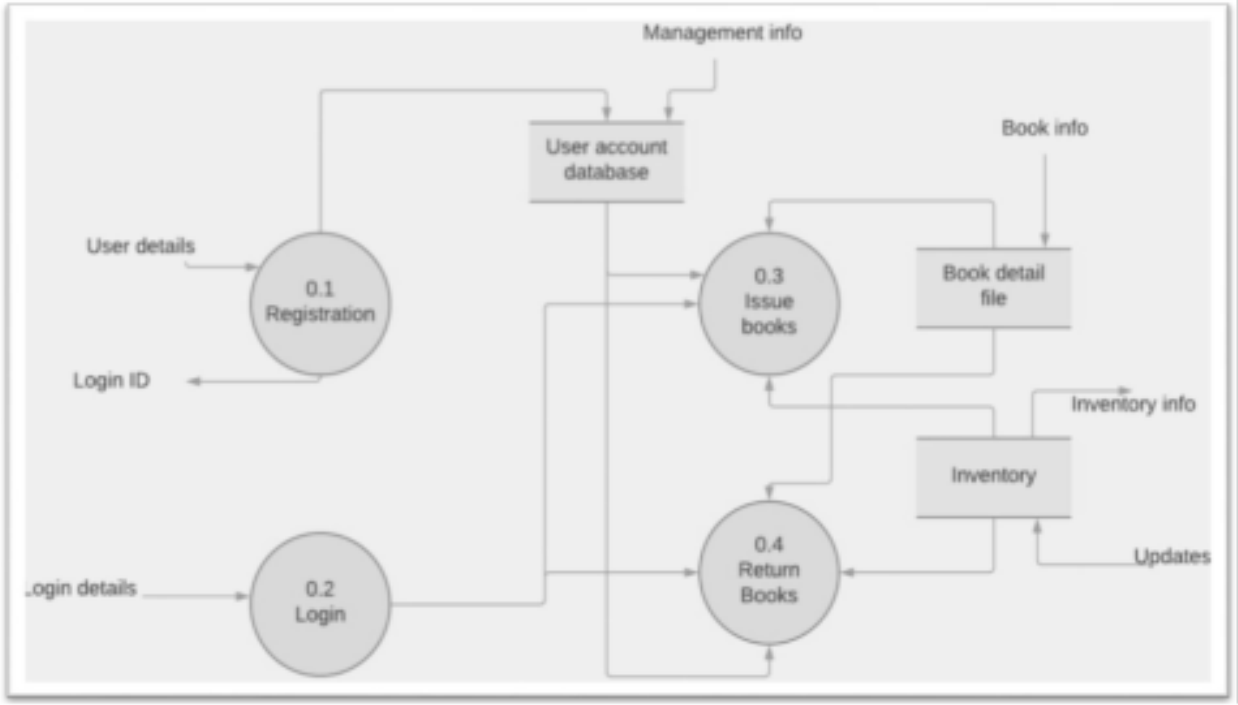


3.4 DATA FLOW DIAGRAM

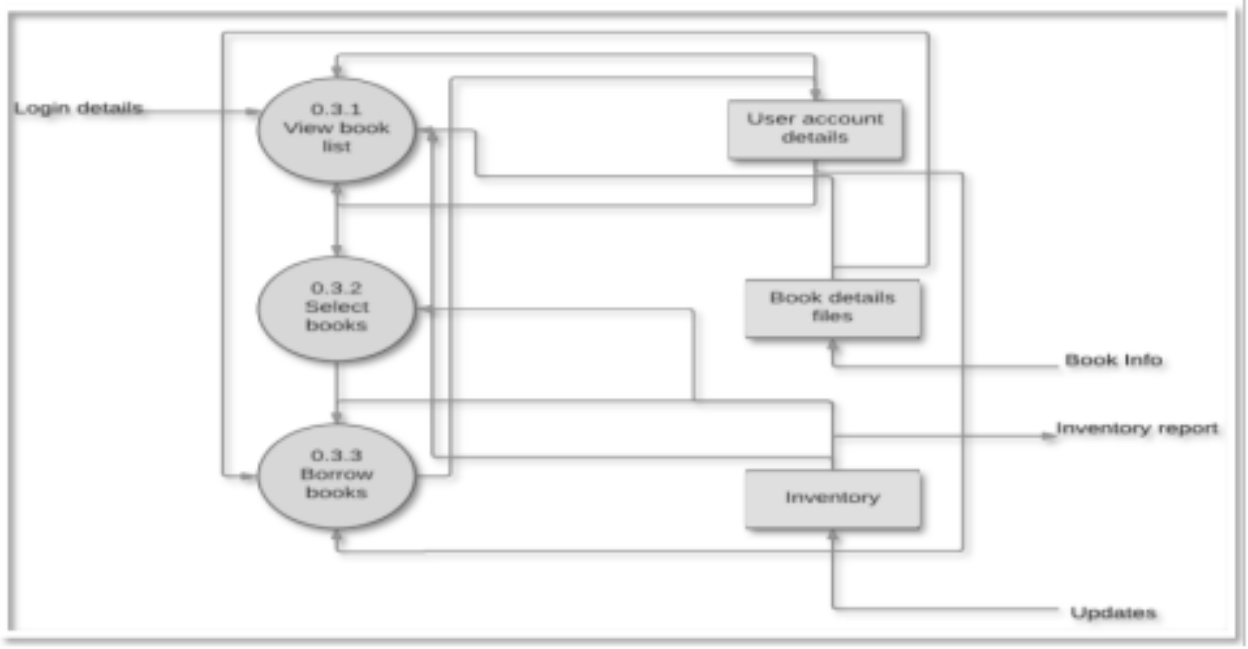
LEVEL 0:



LEVEL 1:

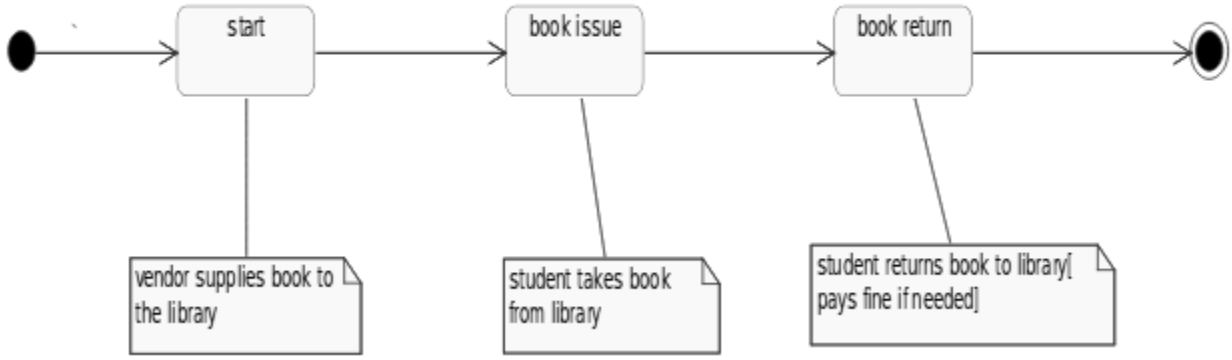


LEVEL 2 for process 0.3:



3.5 *STATE-CHART AND ACTIVITY* DIAGRAM

- ***State-Chart Diagram***



- ***Activity Diagram***

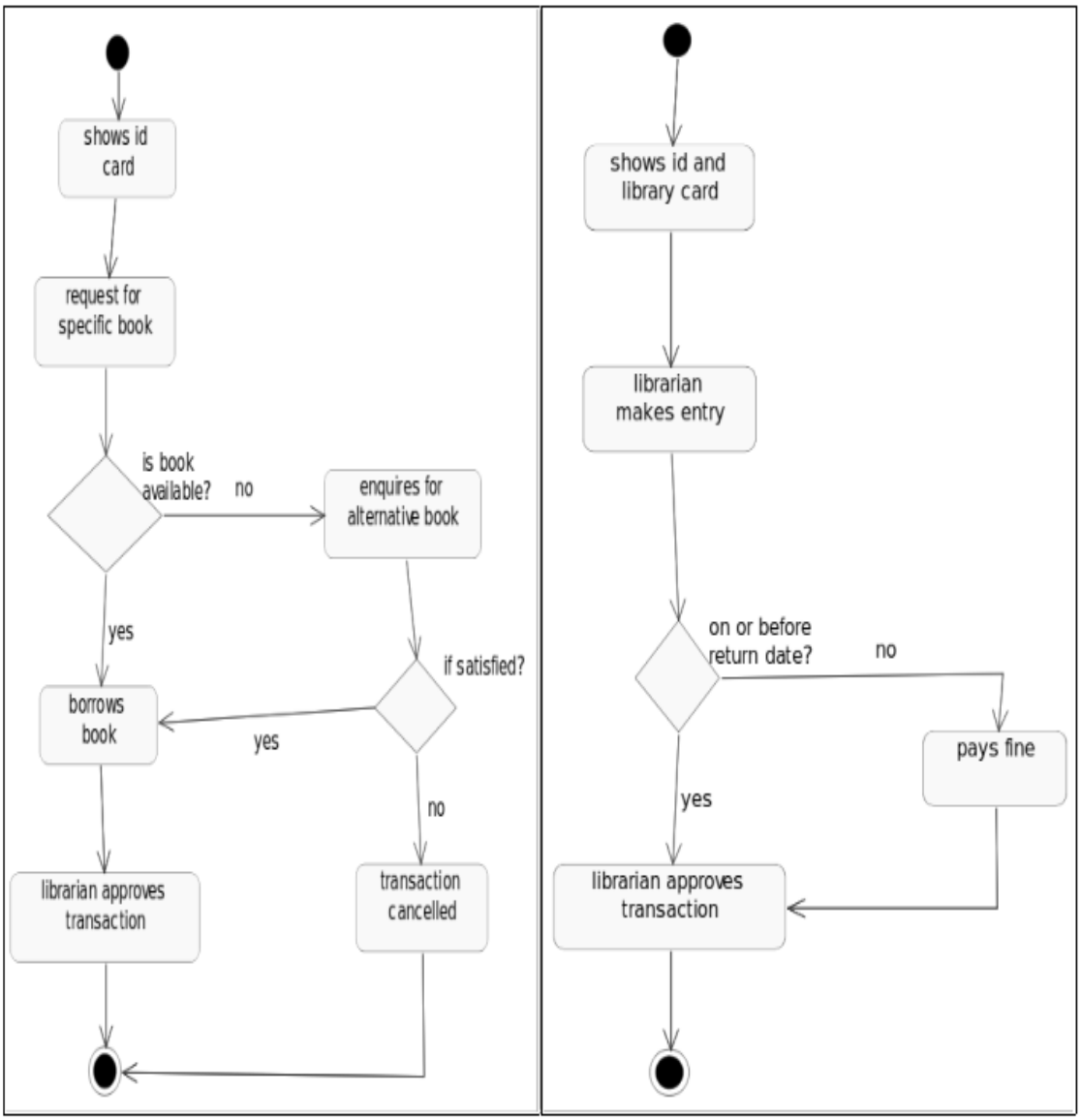


Fig 1 : Activity Diagram : Borrow Book | *Fig 2 : Activity Diagram : Return Book*

3.6 *UML SEQUENCE* DIAGRAM