UML Documentation
for
Library Management System Application
Version 1.0 approved

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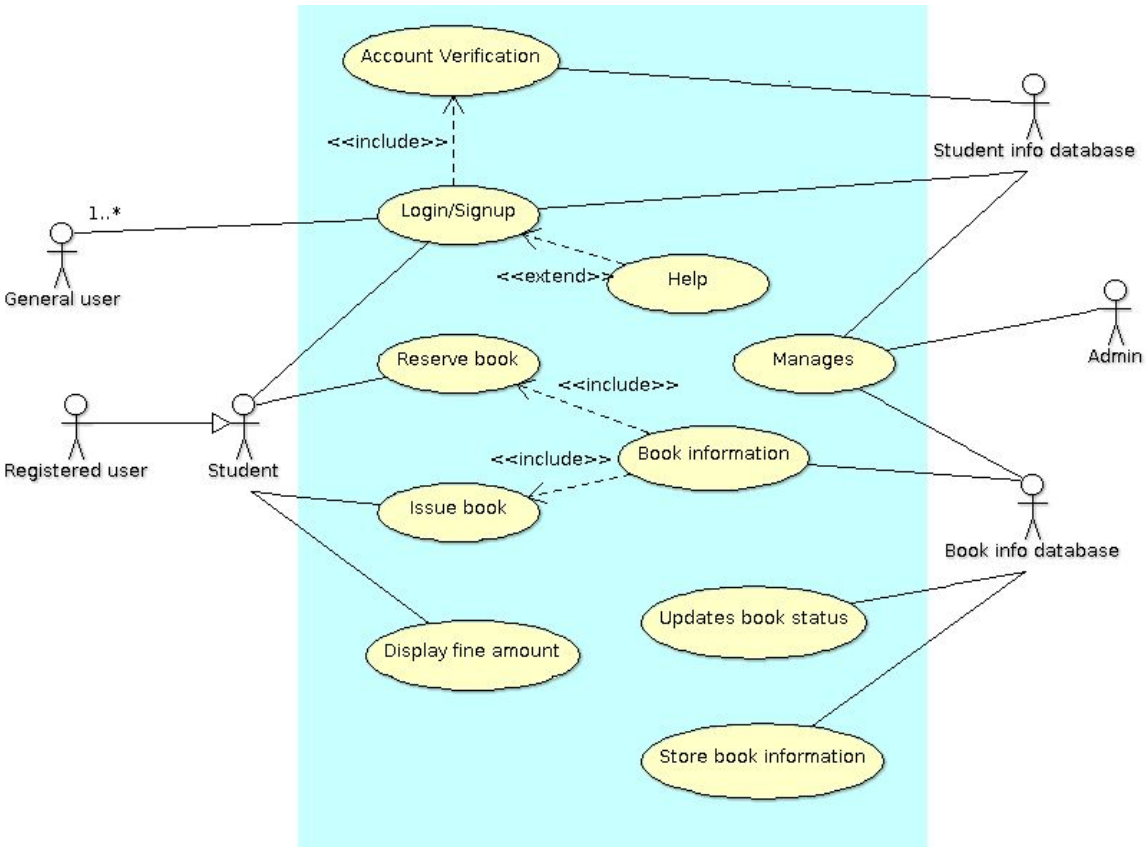
Revision History

Name	Date	Reason For Changes	Version

Contents

1. Use Case Diagram

Use case diagrams are usually referred to as behavior diagrams used to describe A set of actions (use cases) that some system or systems (subject) should or can perform in collaboration with one or more external users of the system (actors). Each use case should provide some observable and valuable result to the actors or other stakeholders of the system.



2. Class Diagram

Class diagram is a static diagram. It represents the static view of an application Class diagram describes the attributes and operations of a class and also the constraints imposed on the system. The purpose of the class diagram can be summarized as –

- Analysis and design of the static view of an application.
- Describe responsibilities of a system.
- Base for component and deployment diagrams.
- Forward and reverse engineering.

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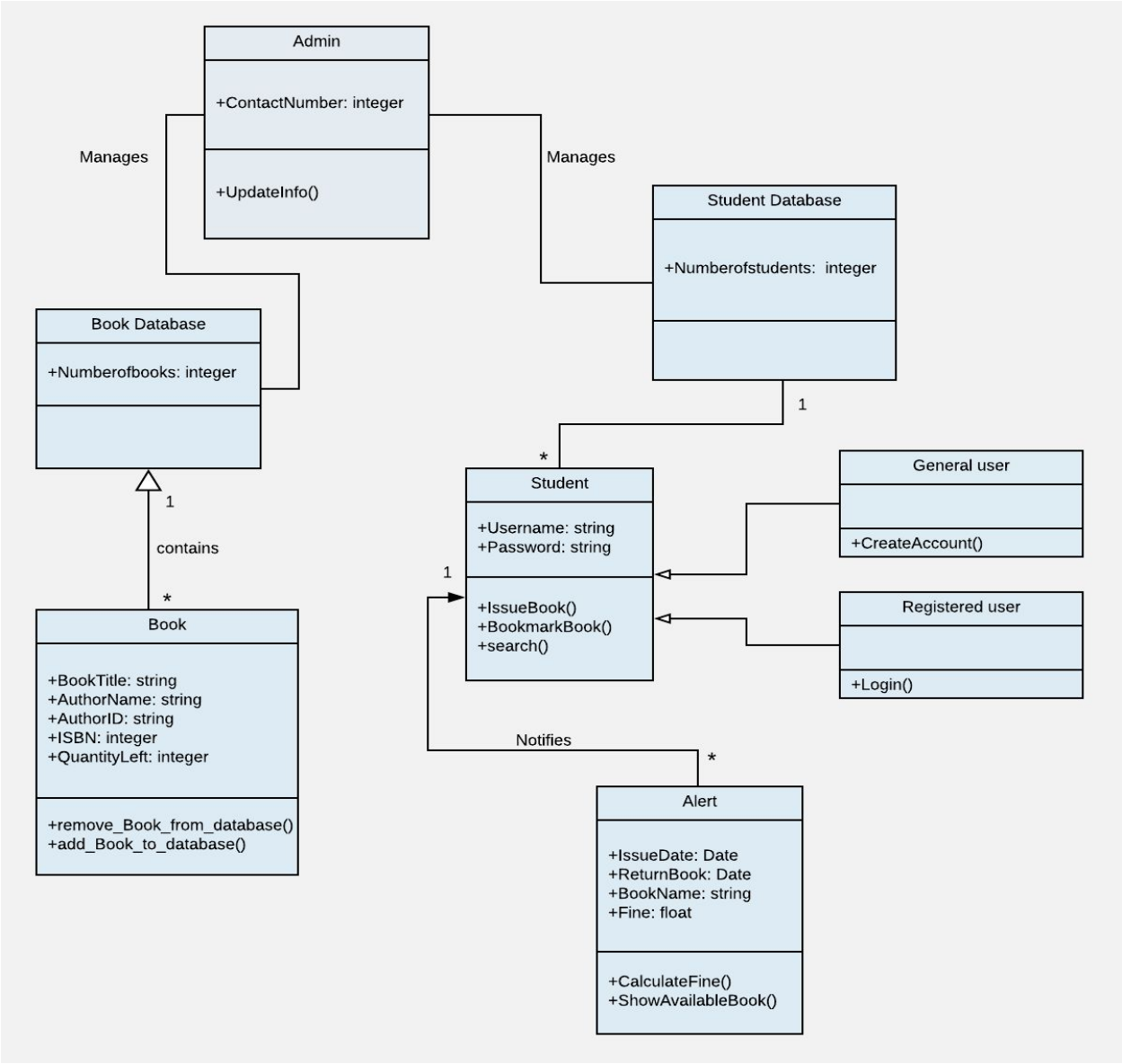
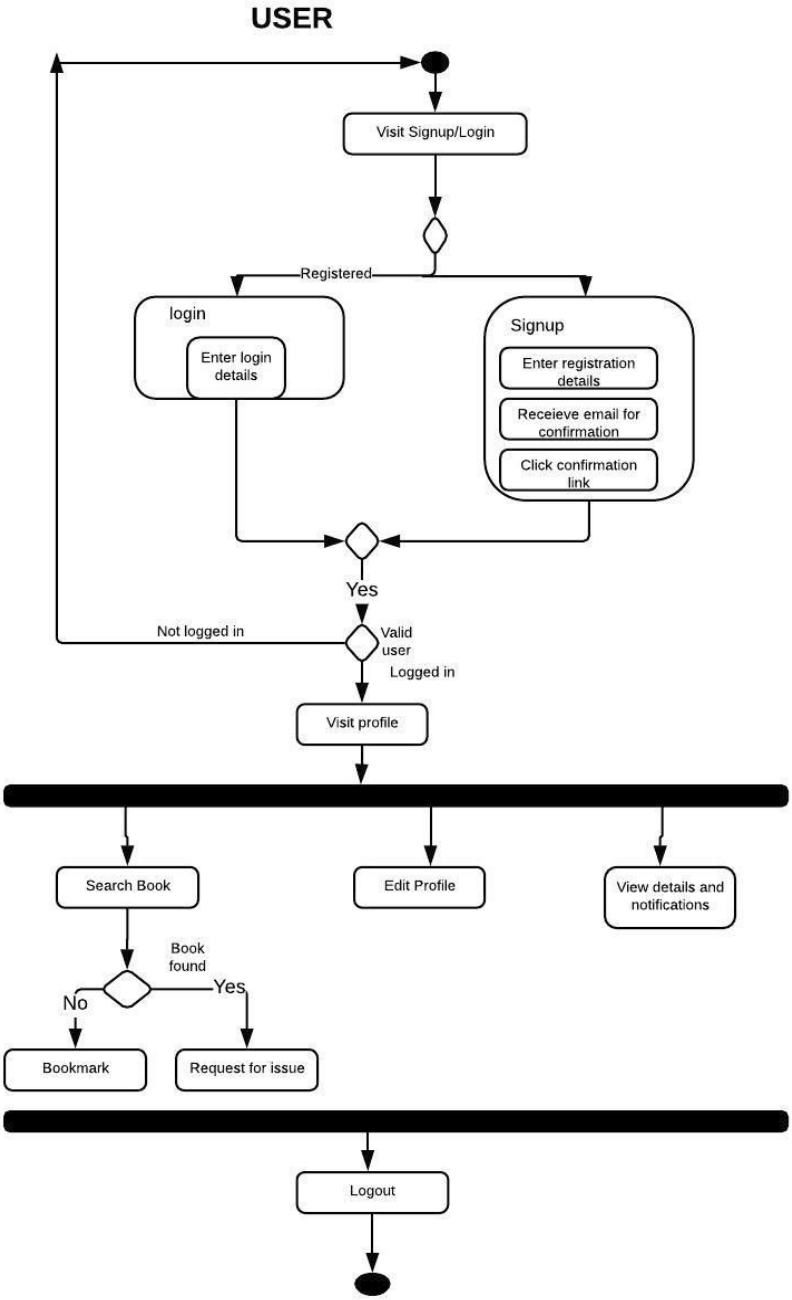
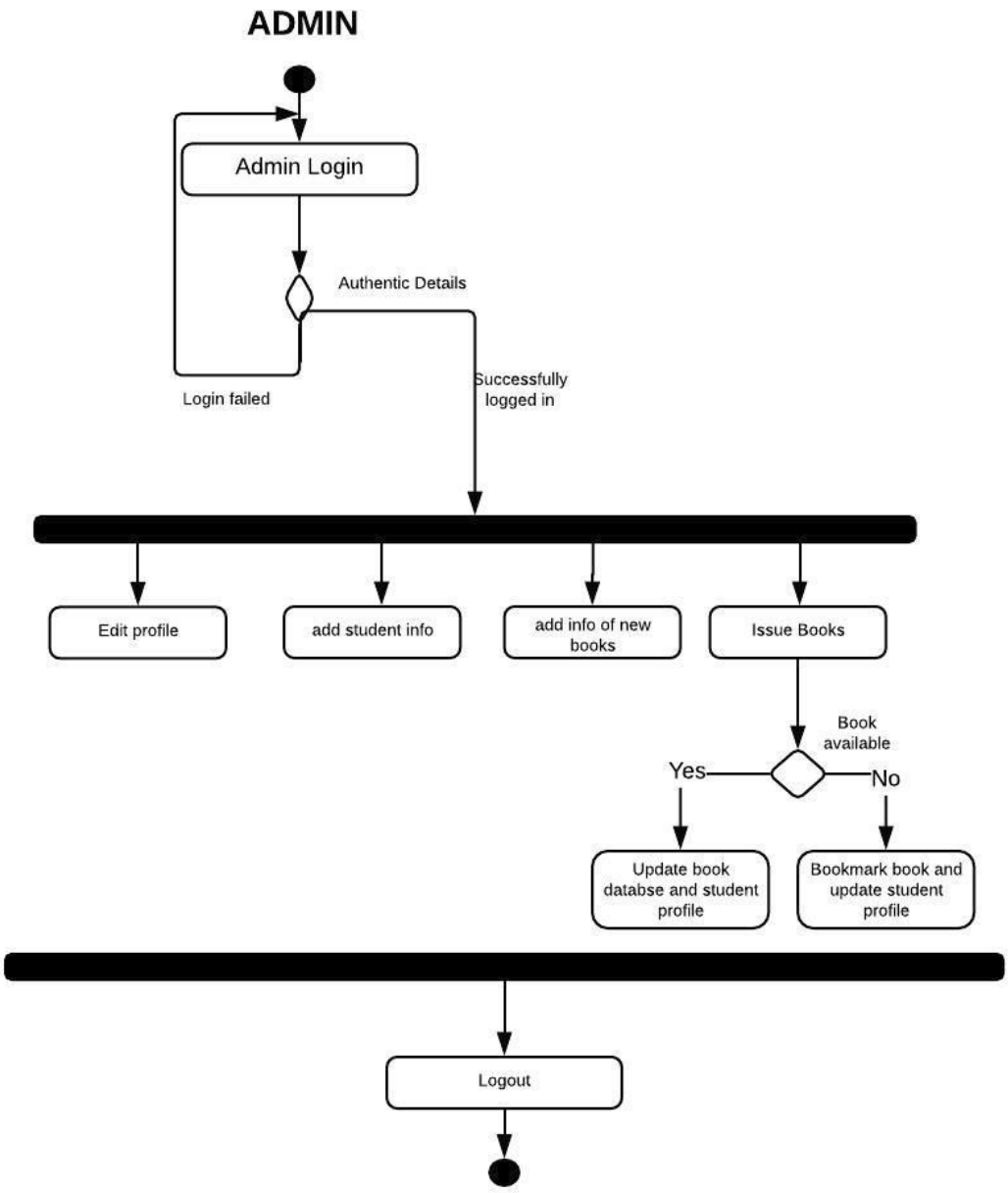


3. Activity Diagram

An activity diagram visually presents a series of actions or flow of control in a system similar to a flowchart or data flow diagram. Activity diagrams are often used in business process modeling. They can also describe the steps in a use case diagram. Activities modeled can be sequential and concurrent. In both cases an activity diagram will have a beginning and an end.

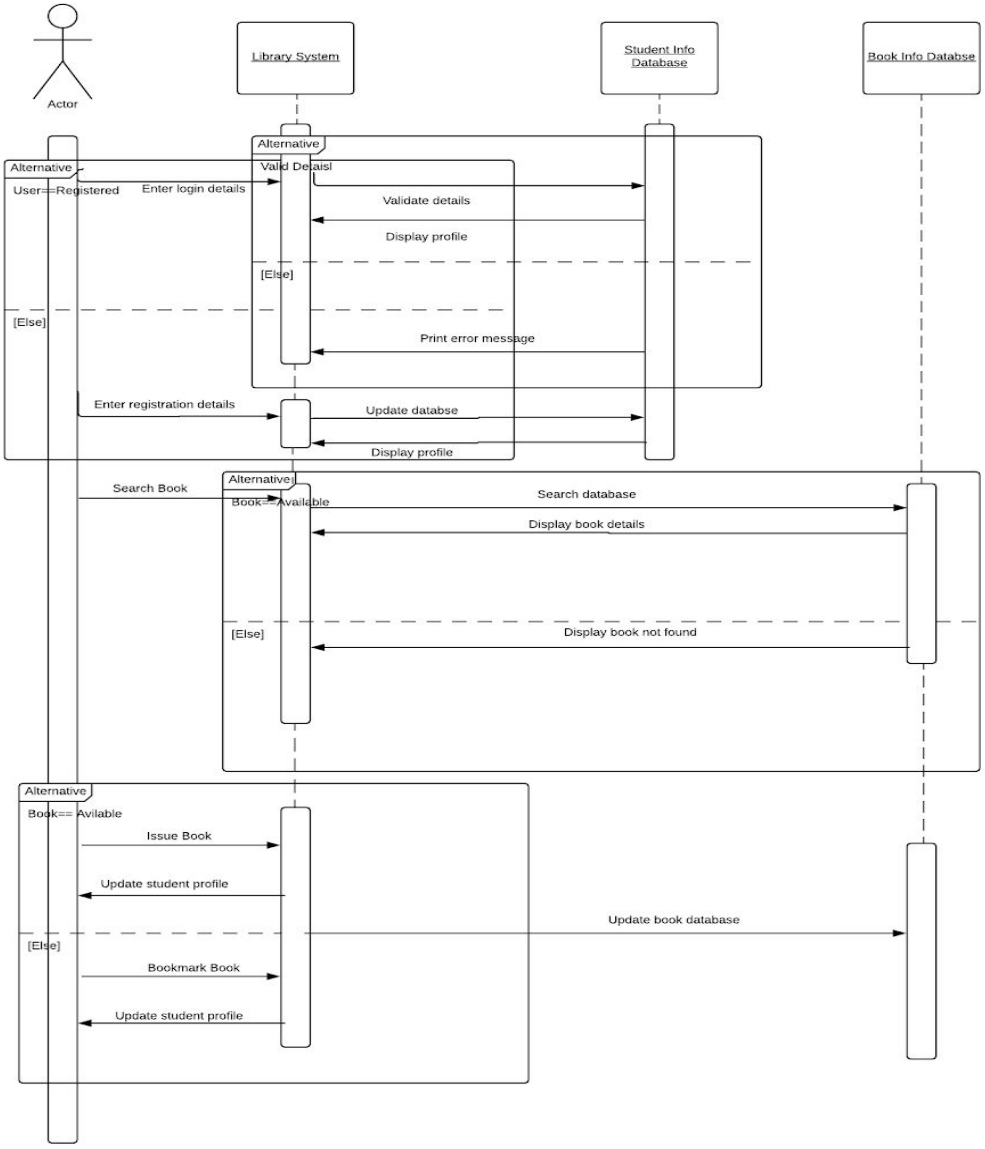



ADMIN
Admin Login
Authentic Details
Login failed
Successfully logged in
Edit profile
add student info
add info of new books
Issue Books
Book available
Yes
No
Update book databse and student profile
Bookmark book and update student profile
Logout

4. Sequence and Collaboration Diagram

A sequence diagram shows object interactions arranged in time sequence. It depicts the objects and classes involved in the scenario and the sequence of messages exchanged between the objects needed to carry out the functionality of the scenario. Sequence diagrams are typically associated with use case realizations in the Logical View of the system under development. Sequence diagrams are sometimes called event diagrams or event scenarios.

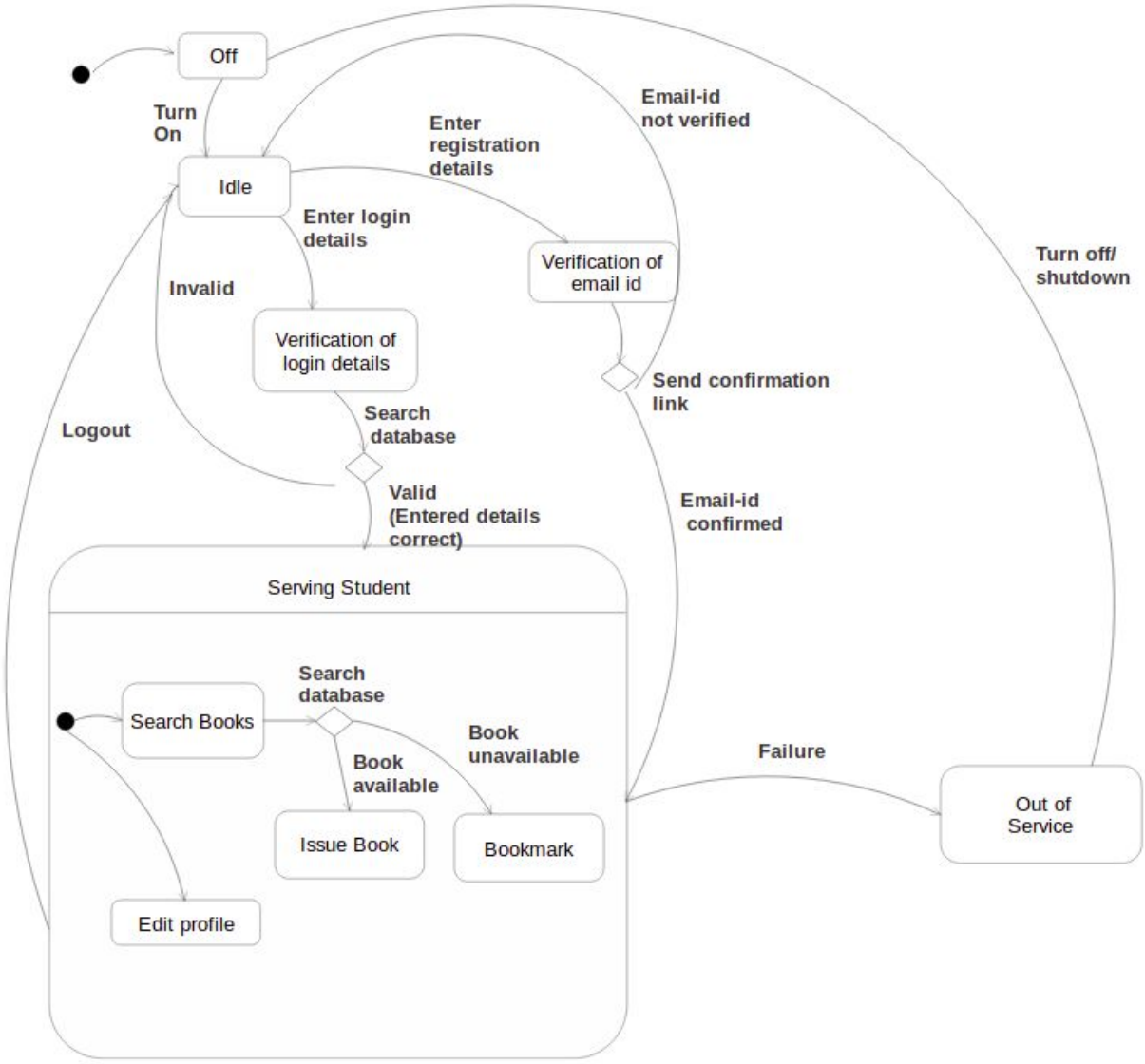
A sequence diagram shows, as parallel vertical lines (*lifelines*), different processes or objects that live simultaneously, and, as horizontal arrows, the messages exchanged between them, in the order in which they occur. This allows the specification of simple runtime scenarios in a graphical manner.



5. State Machine Diagram

State machine diagram is a behavior diagram which shows discrete behavior of a part of designed system through finite state transitions. State machine diagrams can also be used to express the usage protocol of part of a system. Two kinds of state machines defined in UML 2.4 are

- Behavioral state machine, and
- Protocol state machine.

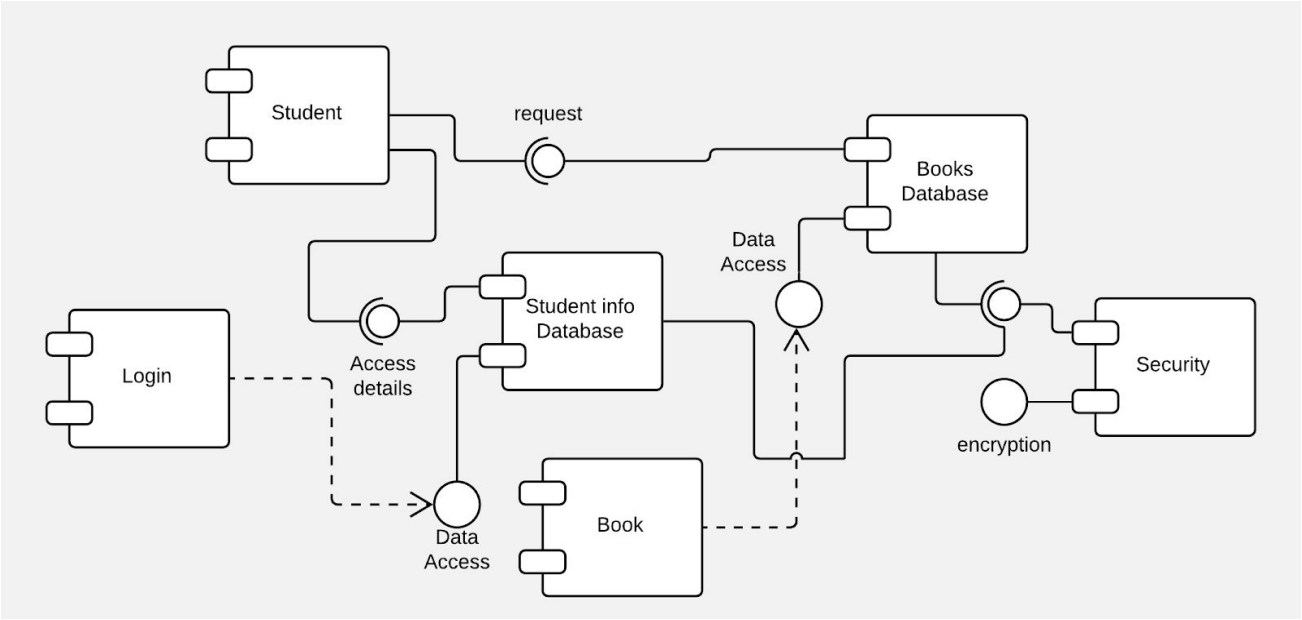


6. Component Diagram

Component diagrams are used to model the physical aspects of a system, such as executables, libraries, files, documents, etc. which reside in a node.

The purpose of the component diagram can be summarized as −

- Visualize the components of a system.
- Construct executables by using forward and reverse engineering.
- Describe the organization and relationships of the components.



7. Deployment Diagram

Deployment diagrams are used to visualize the topology of the physical components of a system where the software components are deployed.

The purpose of deployment diagrams can be described as:

- Visualize hardware topology of a system.
- Describe the hardware components used to deploy software components.
- Describe runtime processing nodes.