

**B.M.S. COLLEGE OF ENGINEERING BENGALURU**

Autonomous Institute, Affiliated to VTU



Lab Record

**Software Engineering and Object-Oriented Modeling**

*Submitted in partial fulfillment for the 6<sup>th</sup> Semester Laboratory*

Bachelor of Engineering  
in  
Computer Science and Engineering

*Submitted by:*

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Mar-June 2024

**B.M.S. COLLEGE OF ENGINEERING**

# DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



## *CERTIFICATE*

This is to certify that the Object-Oriented Analysis and Design(22CS6PCSEO) laboratory has been carried out by Chandrasekhar Patil (1BM21CS043) during the 6<sup>th</sup> Semester Mar-June-2024.

Signature of the Faculty Incharge:

Surabhi S (Assistant Professor)

Department of Computer Science and Engineering  
B.M.S. College of Engineering, Bangalore

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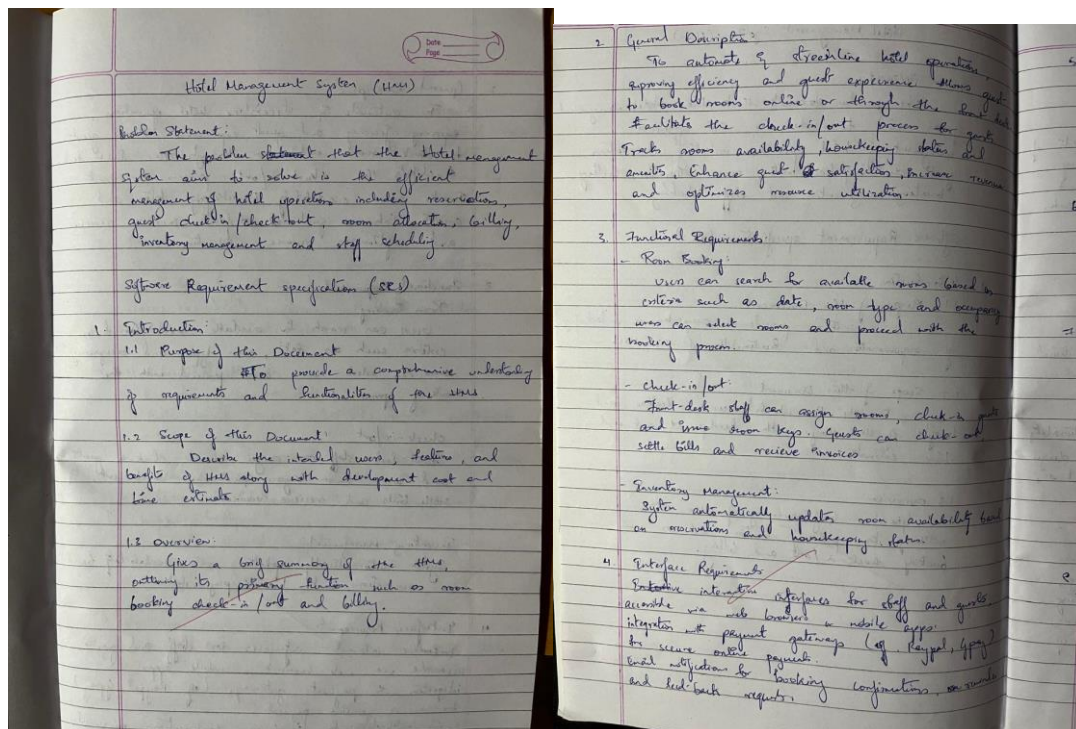
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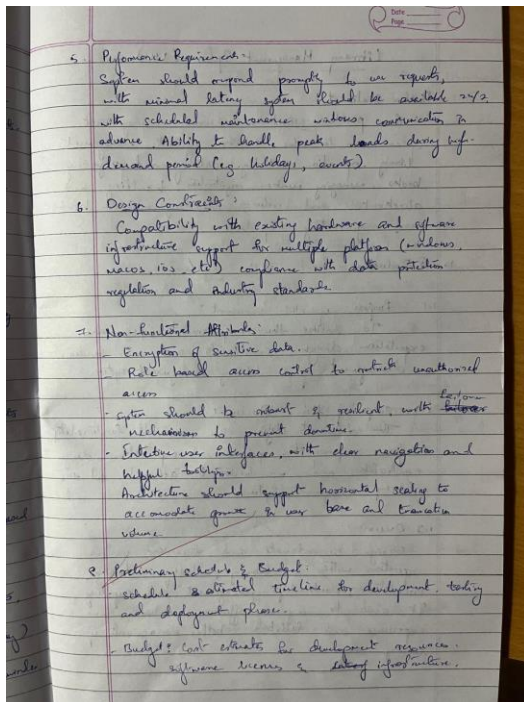
# 1. Hotel Management System

## 1.1 Problem Statement

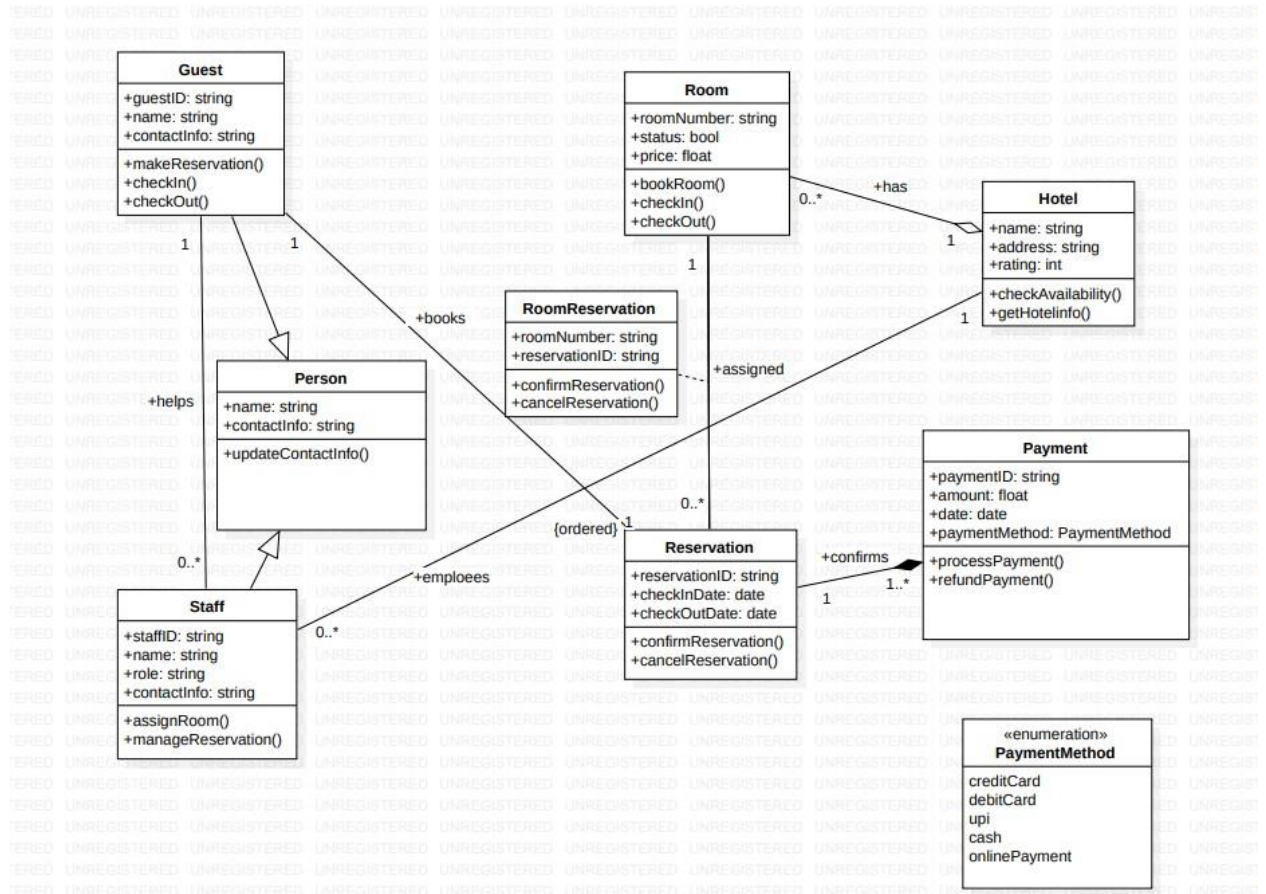
A hotel management system should be designed to streamline and automate various processes involved in managing a hotel, including reservations, check-ins, billing, etc. The system should provide an efficient and user-friendly interface for both hotel staff and guests while ensuring data security, accuracy, and reliability.

## 1.2 SRS-Software Requirements Specification

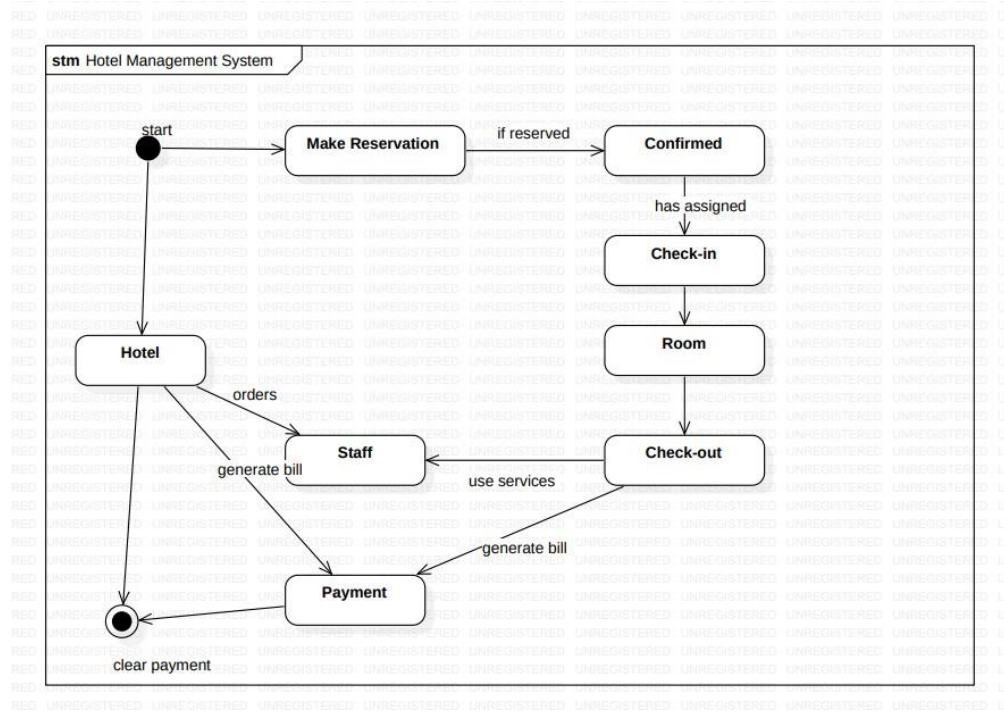




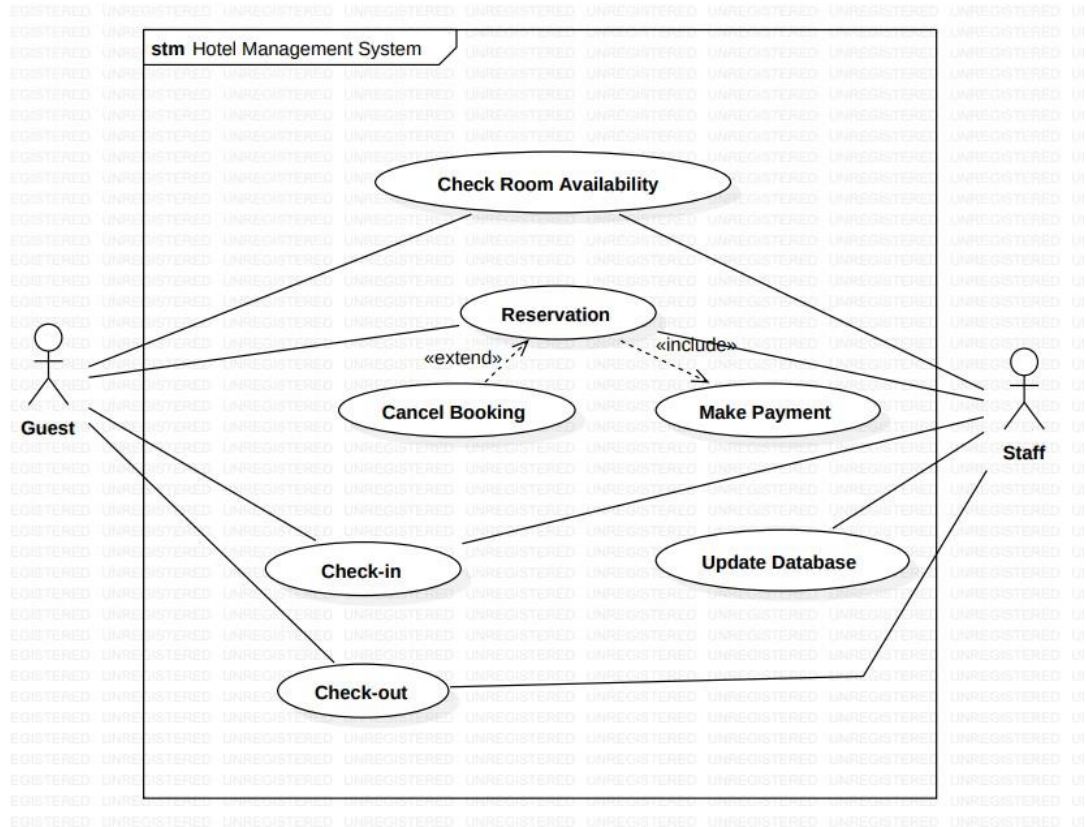
### 1.3 Class Diagram



## 1.4 State Diagram

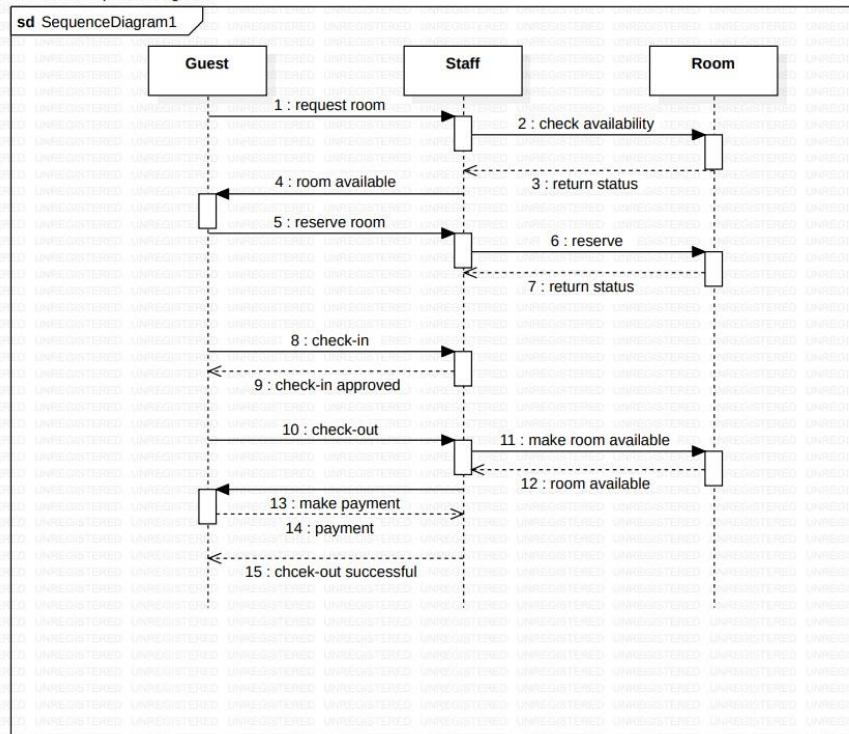


## 1.5 Use Case Diagram

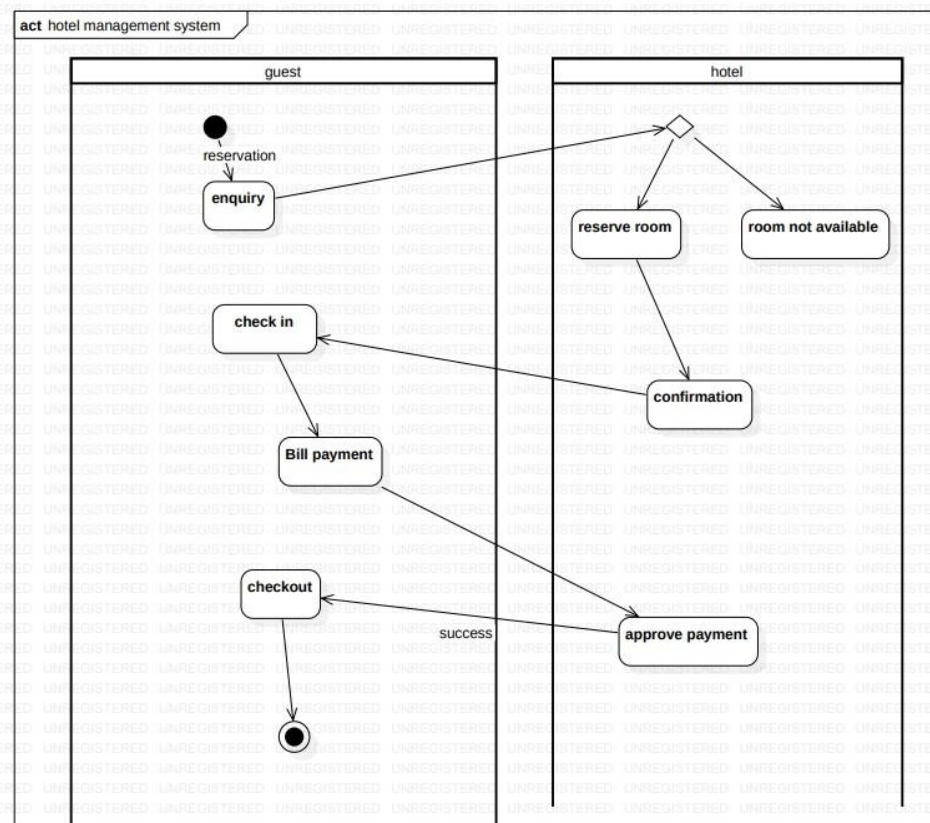




## 1.6 Sequence Diagram



## 1.7 Activity diagram

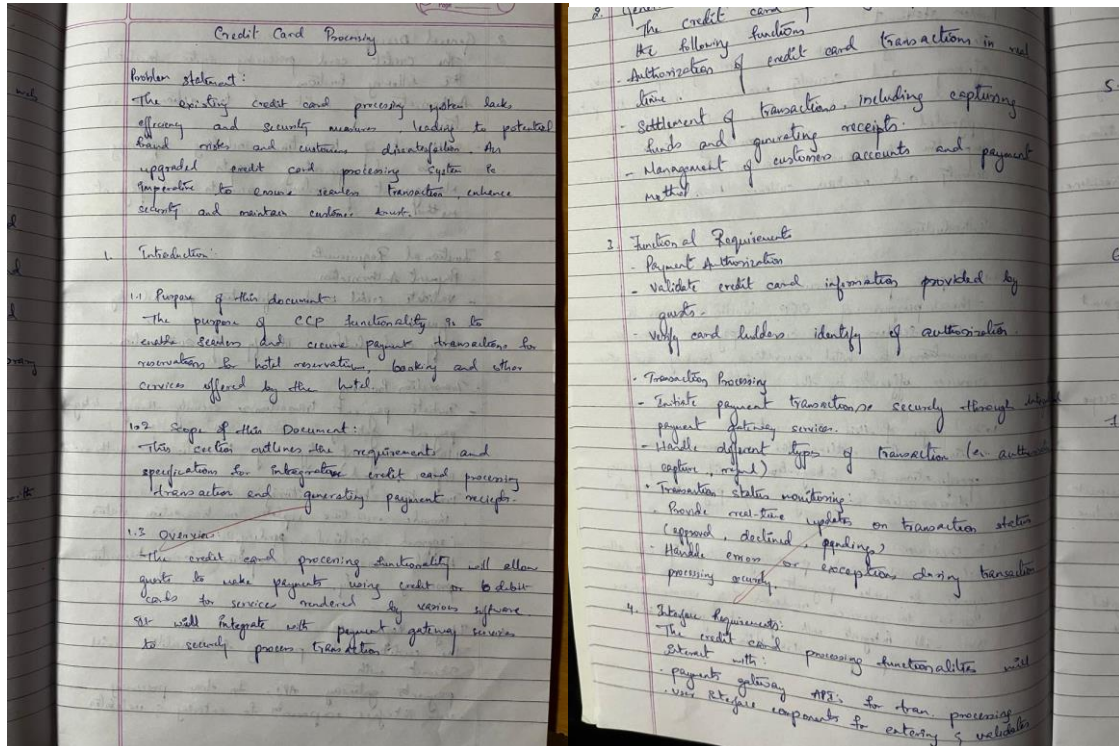


## 2. Credit Card Processing System

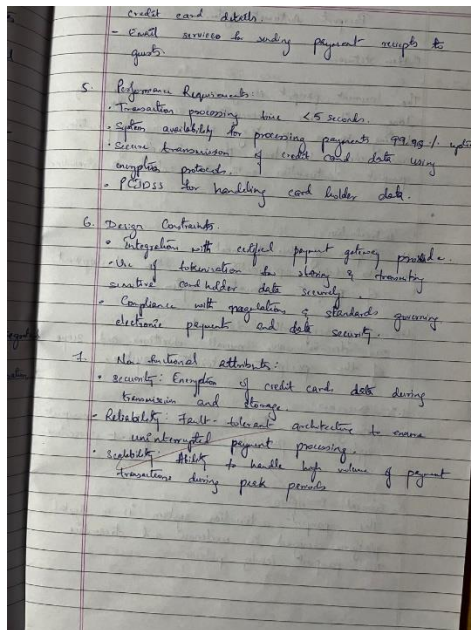
### 2.1 Problem Statement

The existing card processing system lacks efficiency and security measures, leading to potential fraud risks and customer dissatisfaction. An upgraded credit card processing system is imperative to ensure seamless transactions, enhance security, and maintain customer trust.

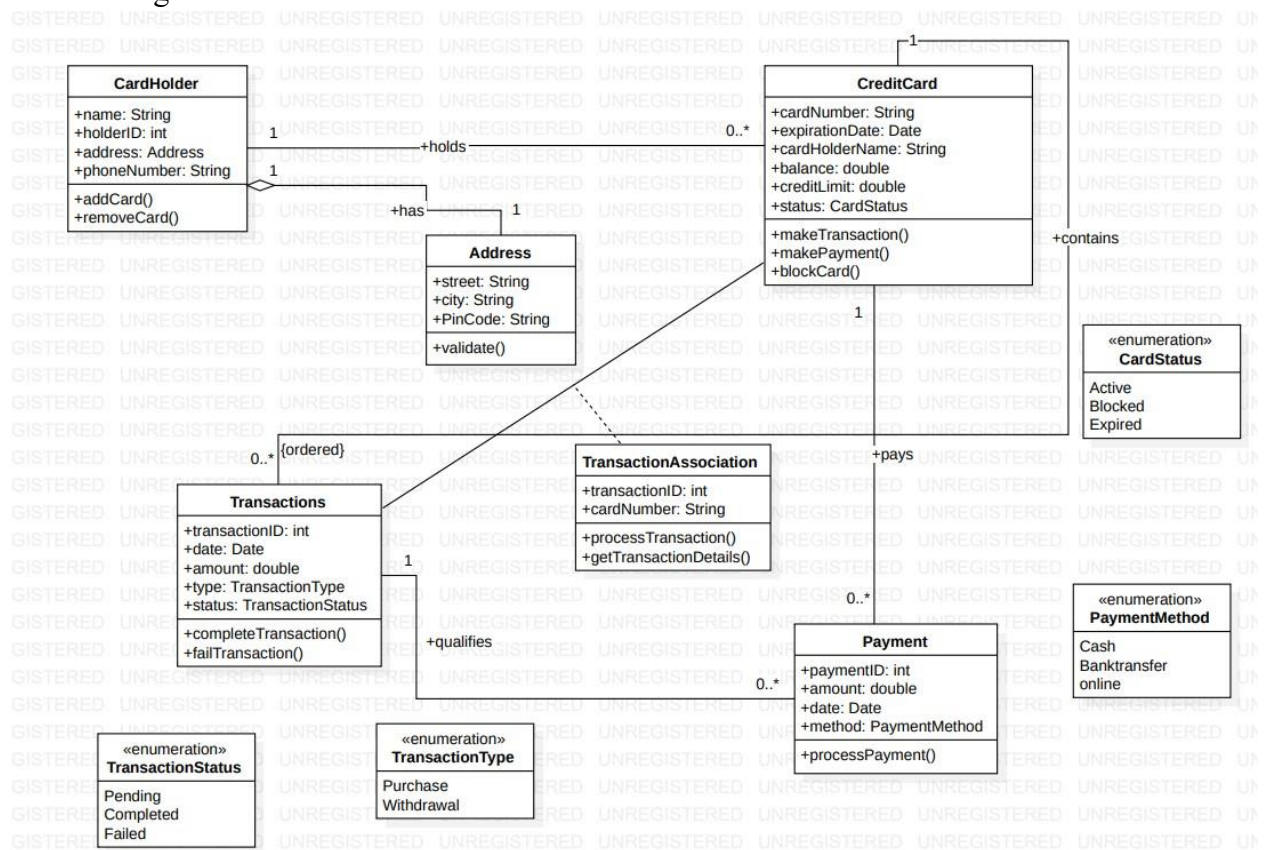
### 2.2 SRS-Software Requirements Specification



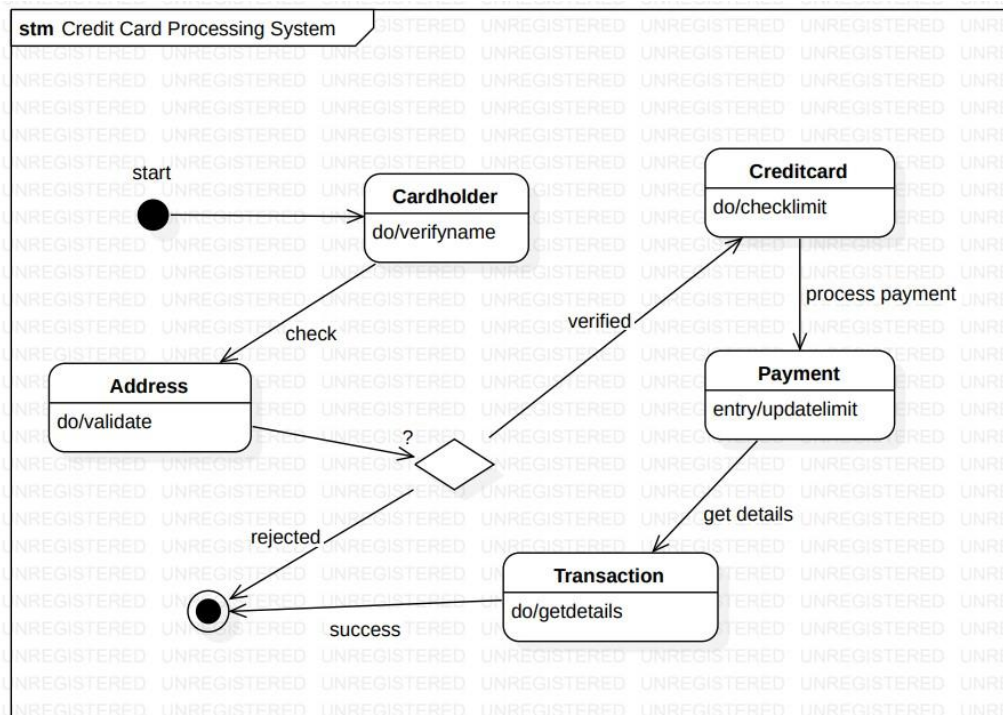




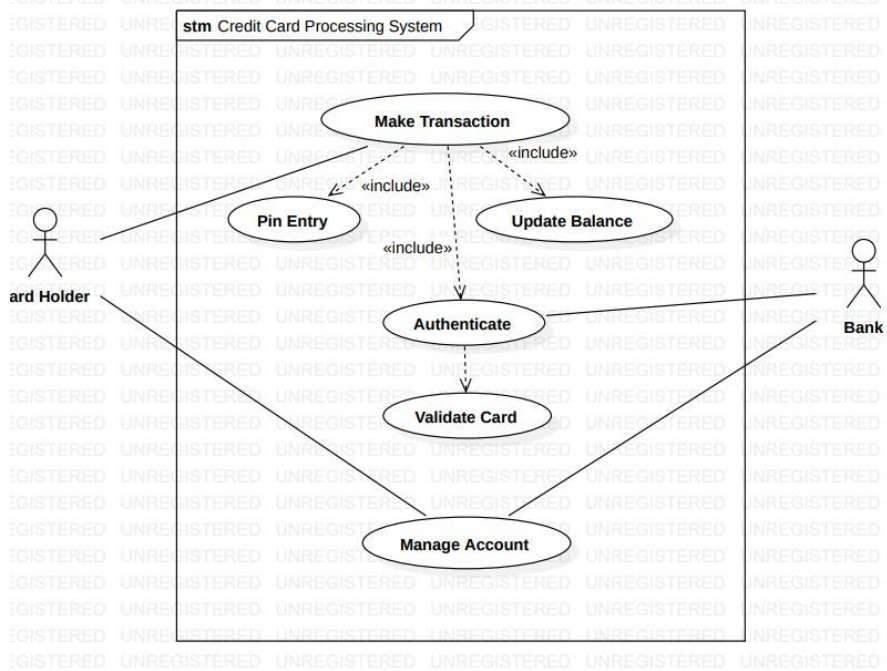
## 2.3 Class Diagram



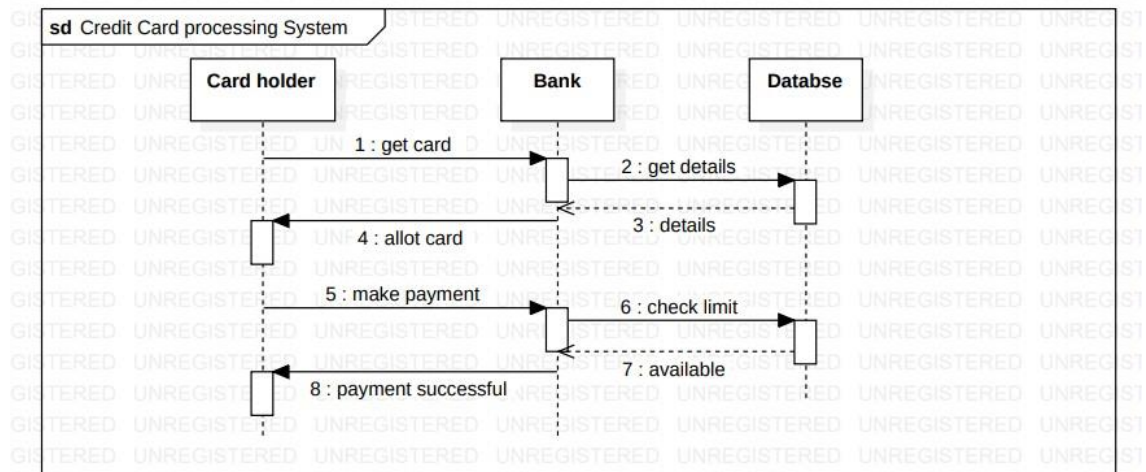
## 2.4 State Diagram



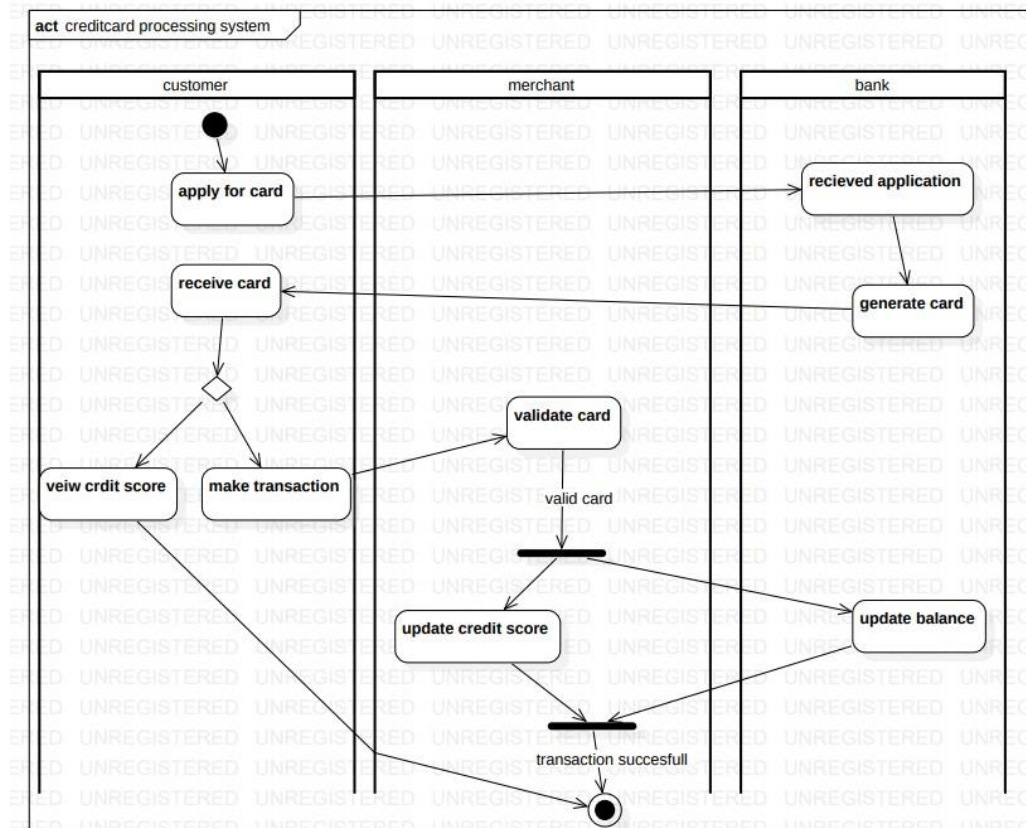
## 2.5 Use Case Diagram



## 2.6 Sequence Diagram



## 2.7 Activity diagram



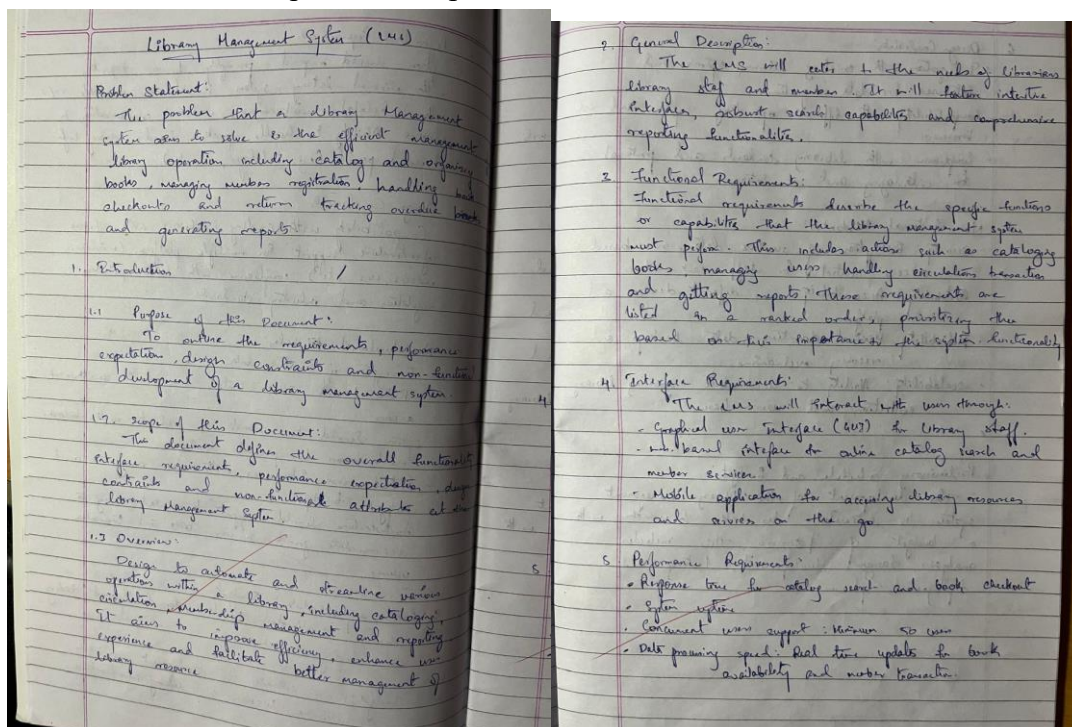


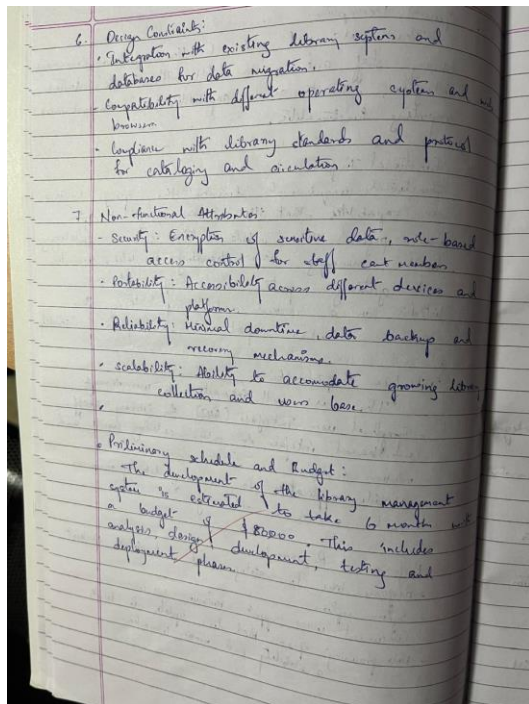
### 3. Library Management System

#### 3.1 Problem Statement

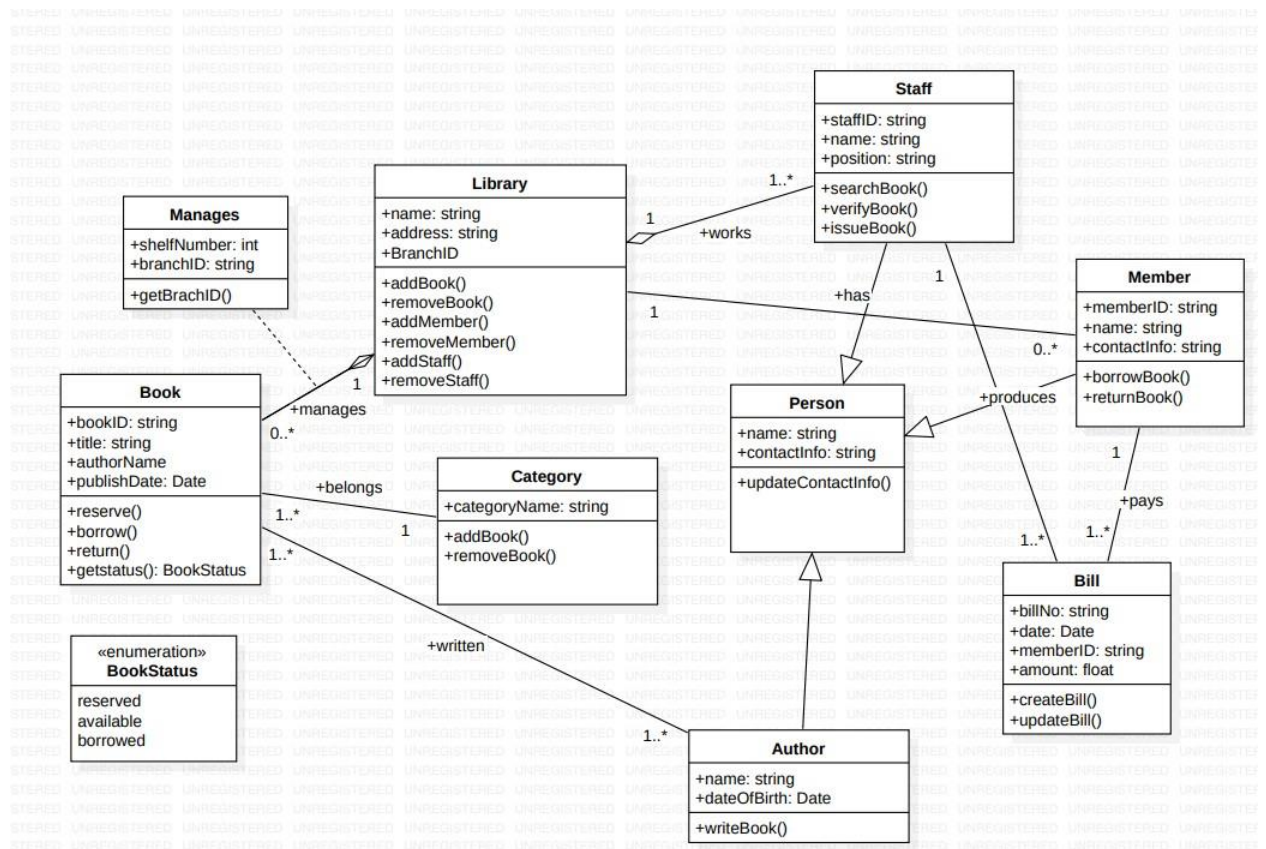
Libraries face significant challenges in managing their operations efficiently due to the reliance on manual processes and outdated systems. These issues include difficulties in cataloging books, managing member records, tracking borrowing and returning transactions, and generating insightful reports. The manual handling of these tasks often leads to errors, delays, and a poor user experience for both library staff and members. There is a need for an automated, user friendly, and reliable Library Management System (LMS) that streamlines these operations, enhances accuracy, and provides real-time access to information, ultimately improving the overall efficiency and effectiveness of library services.

#### 3.2 SRS-Software Requirements Specification



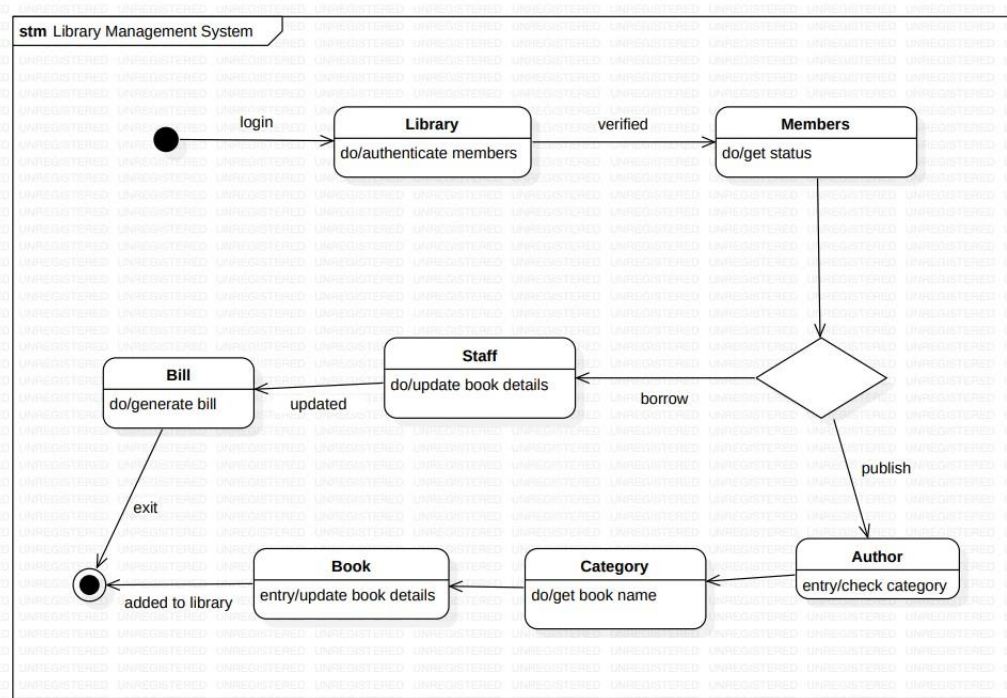


### 3.3 Class Diagram

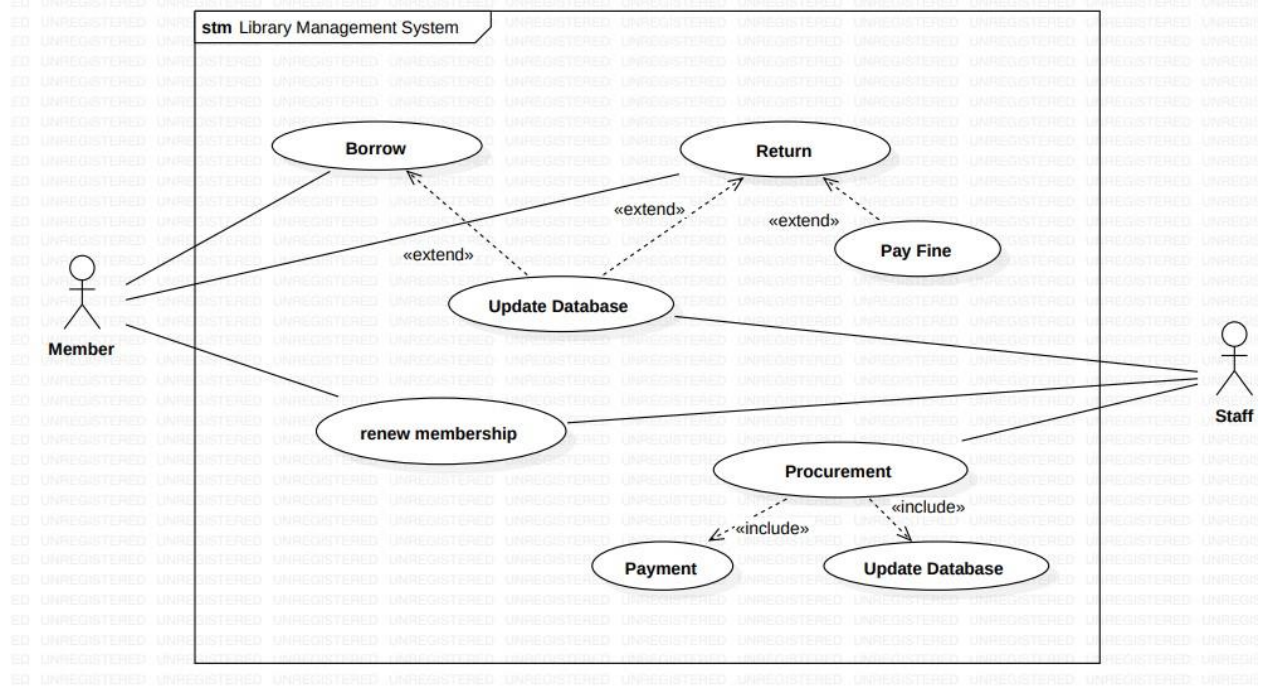




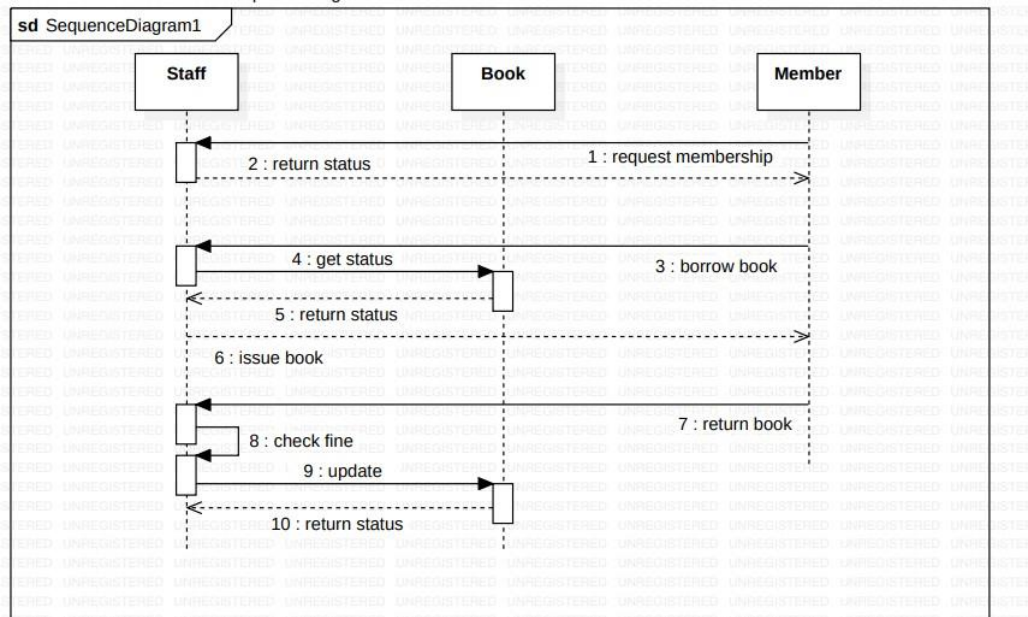
### 3.4 State Diagram



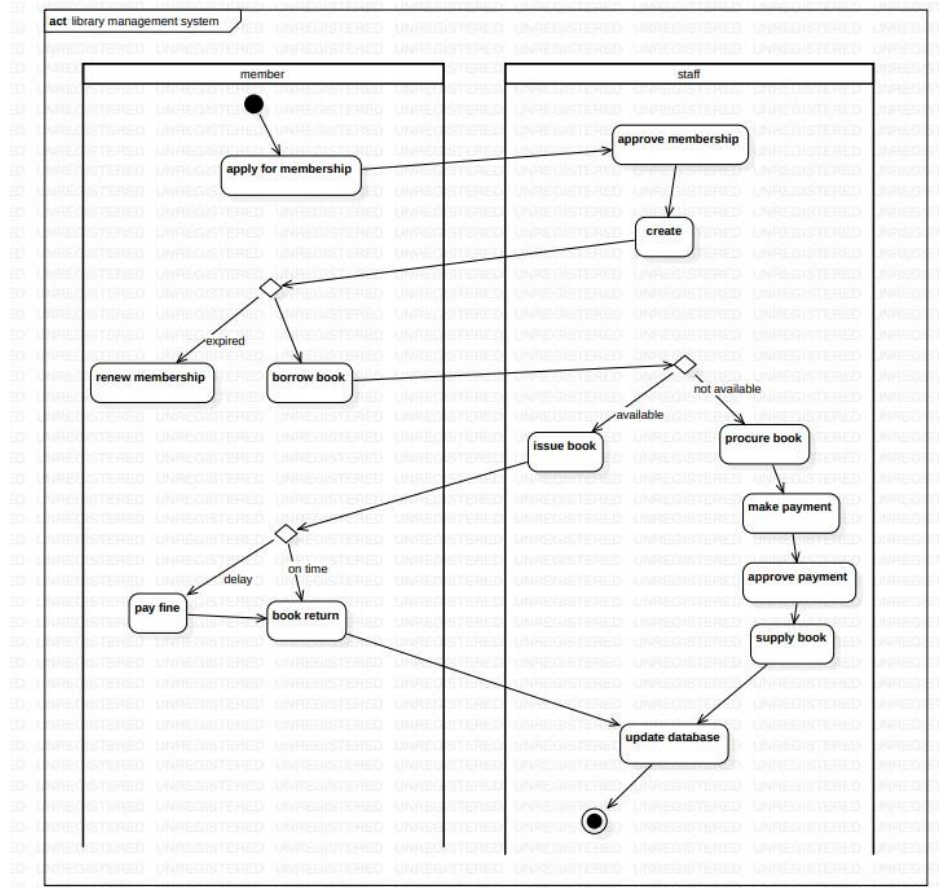
### 3.5 Use Case Diagram



### 3.6 Sequence Diagram



### 3.7 Activity diagram

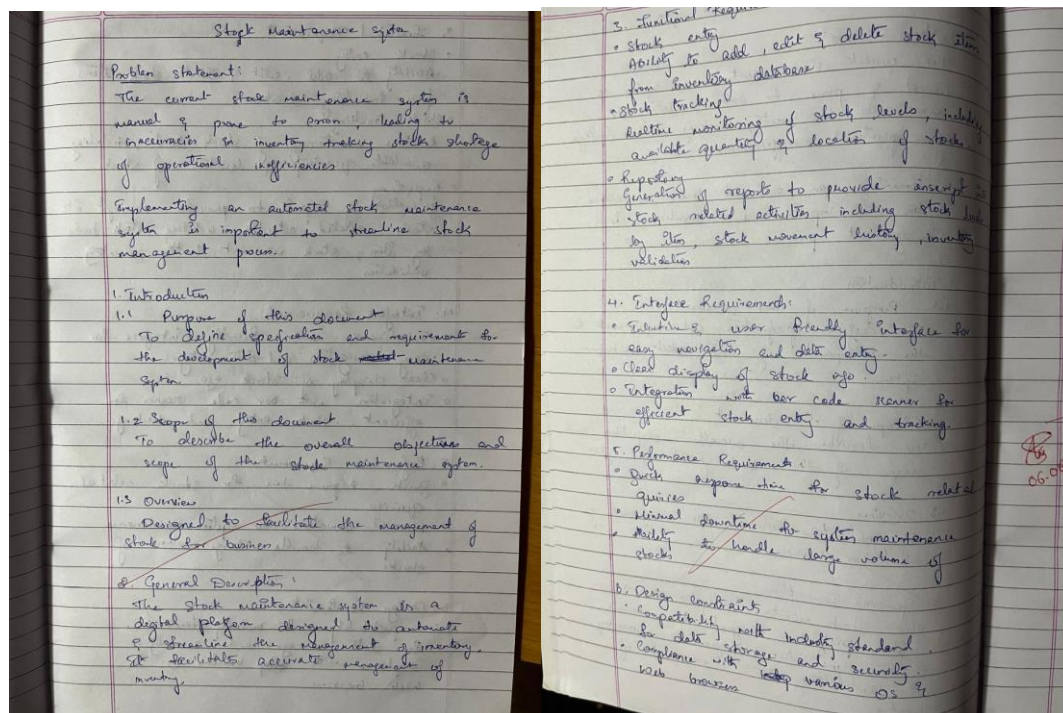


## 4. Stock Maintenance System

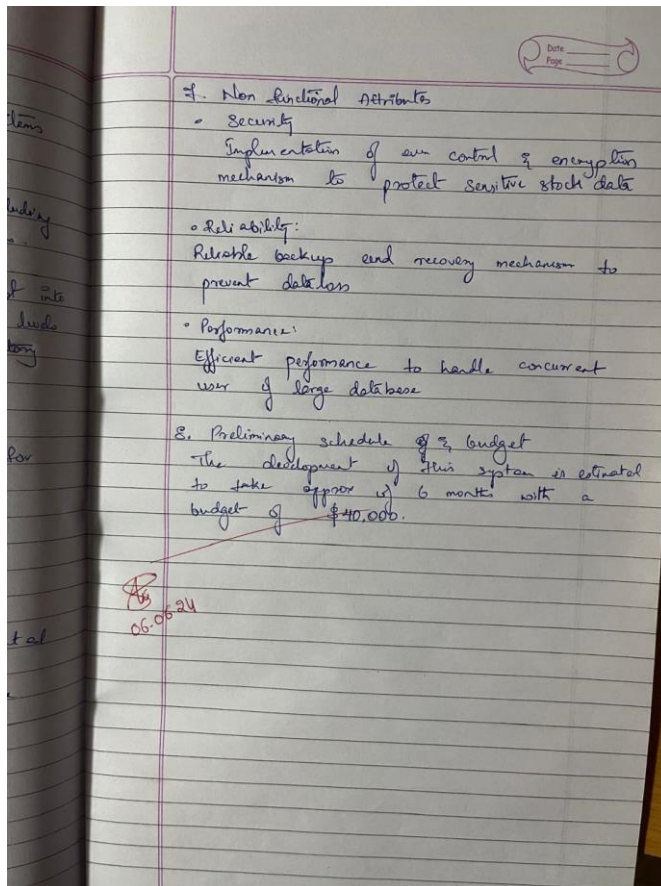
### 4.1 Problem Statement

Create a stock management system named Bystim for a small business that effectively manages inventory. The system should track stock levels, handle product information, process sales transactions, generate reports, and manage analysis. Emphasize usability, scalability, and adherence to industry-standard engineering principles.

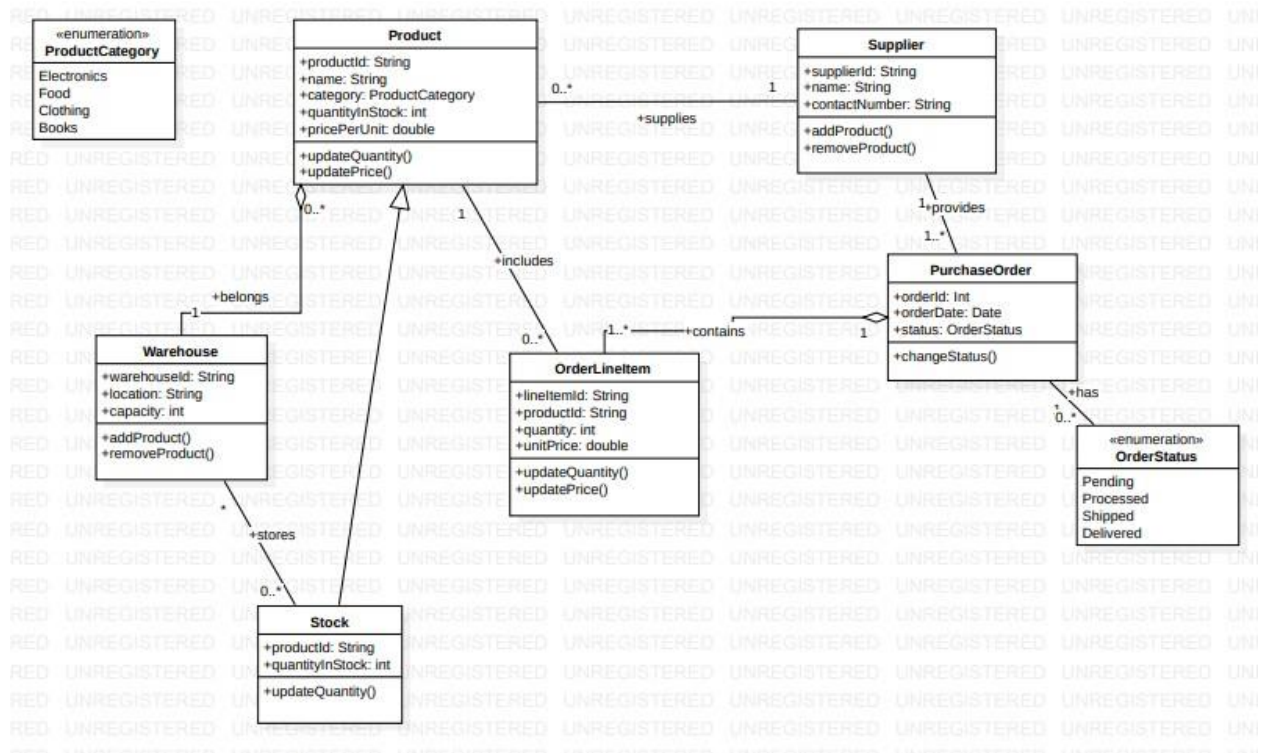
### 4.2 SRS-Software Requirements Specification





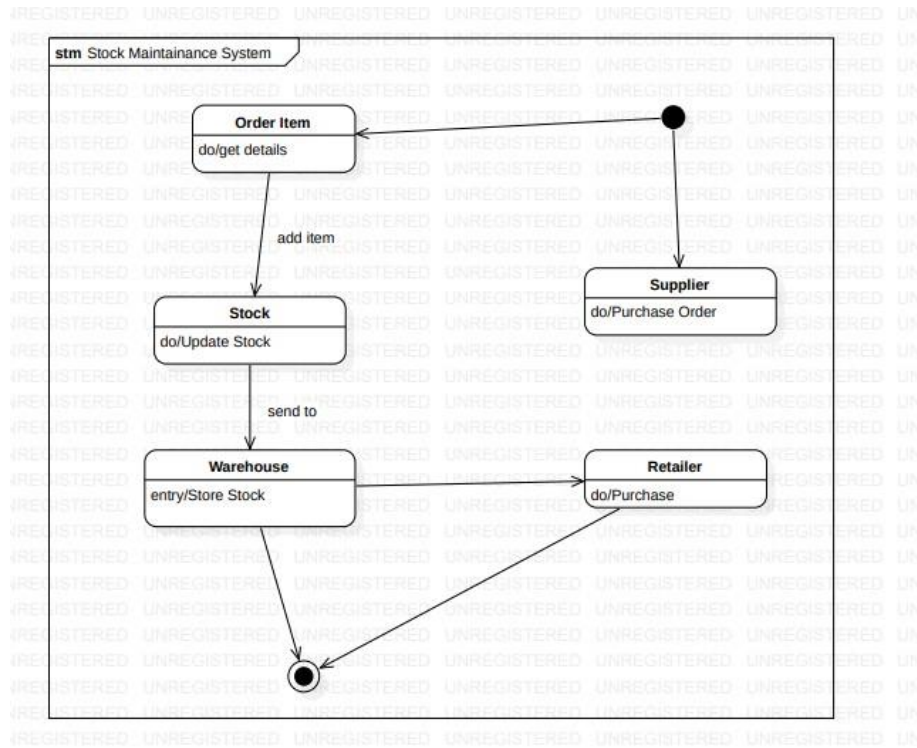


#### 4.3 Class Diagram

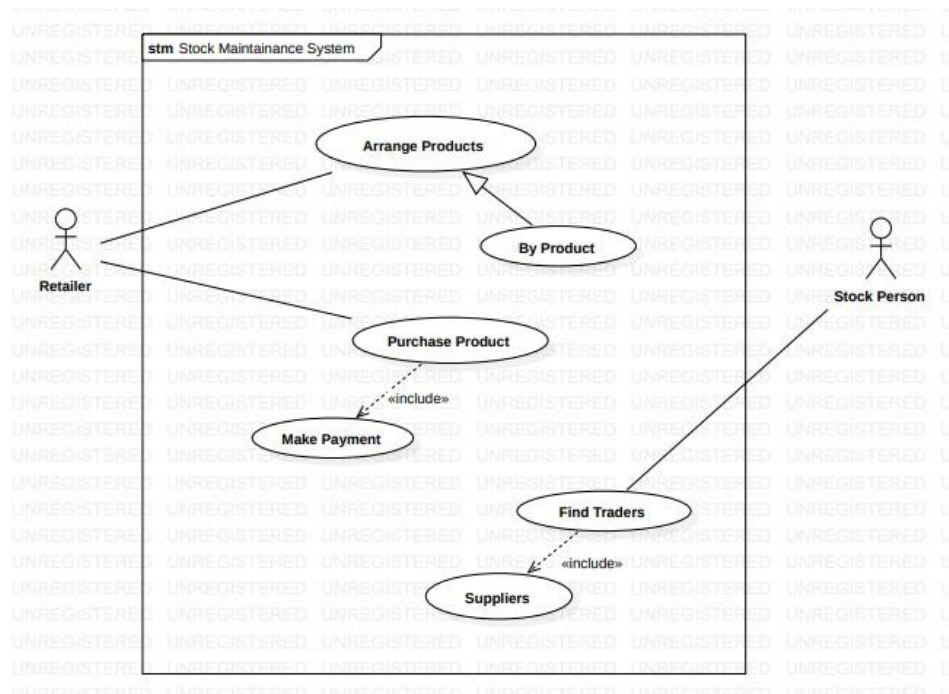




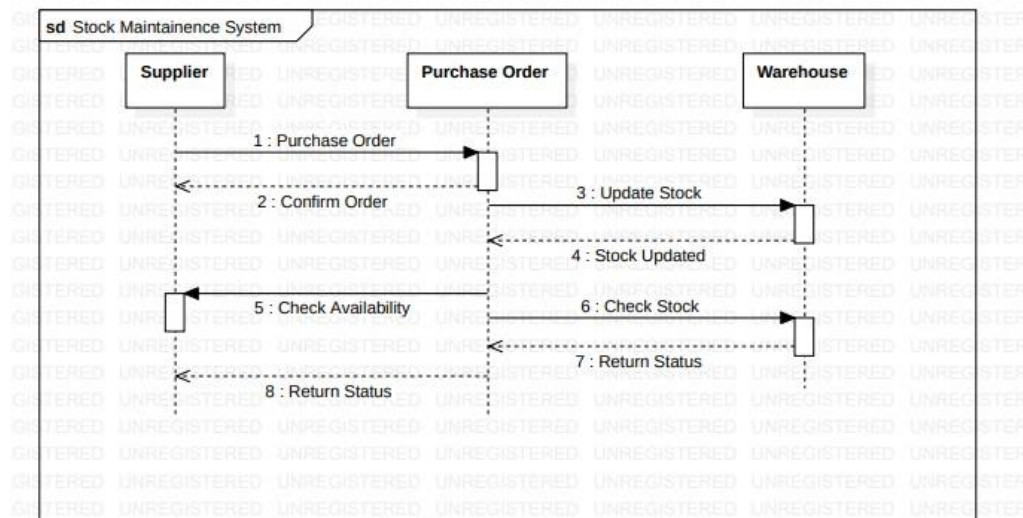
## 4.4 State Diagram



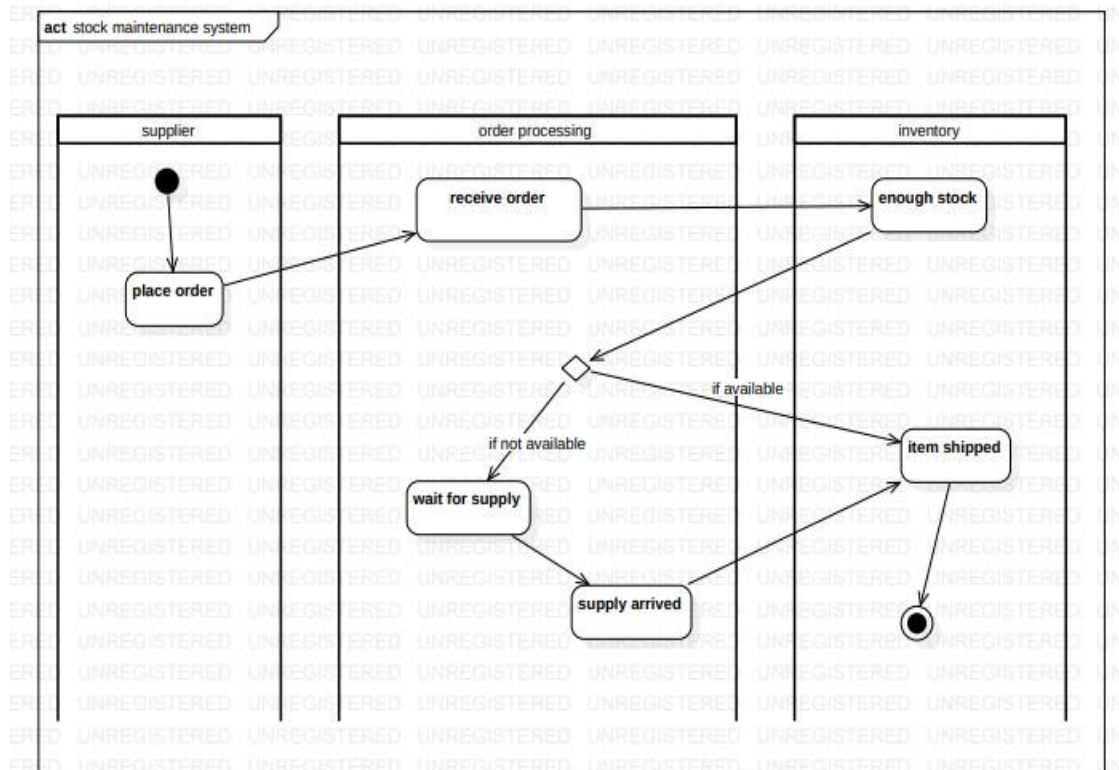
## 4.5 Use Case Diagram



## 4.6 Sequence Diagram



## 4.7 Activity diagram

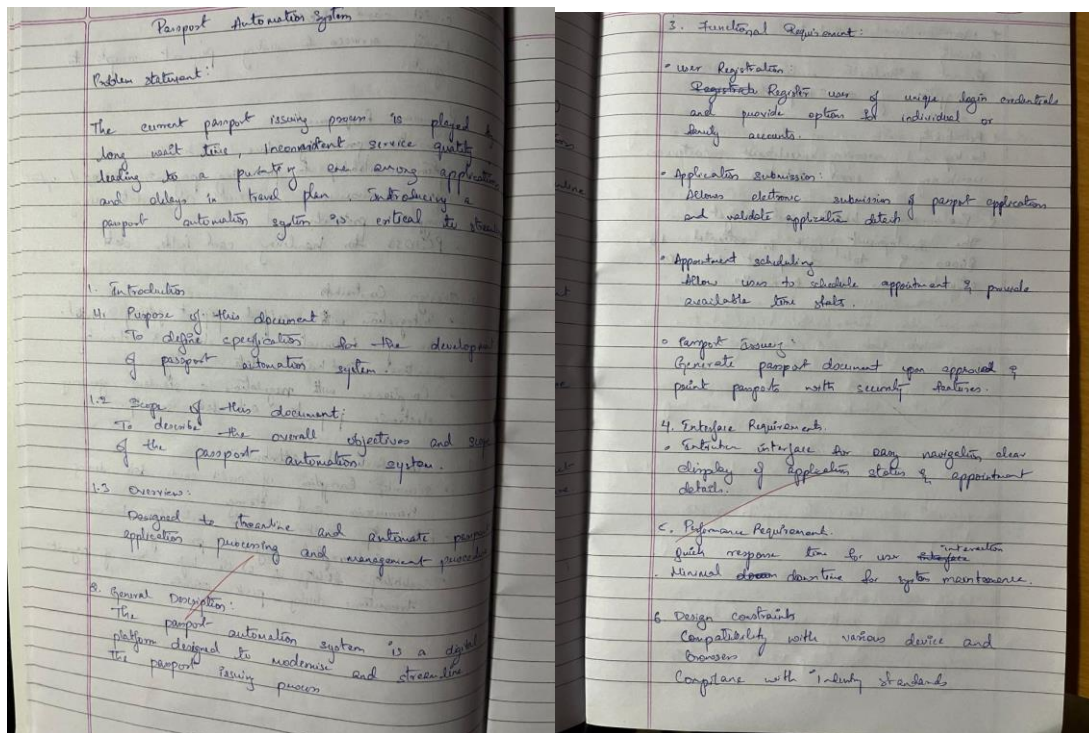


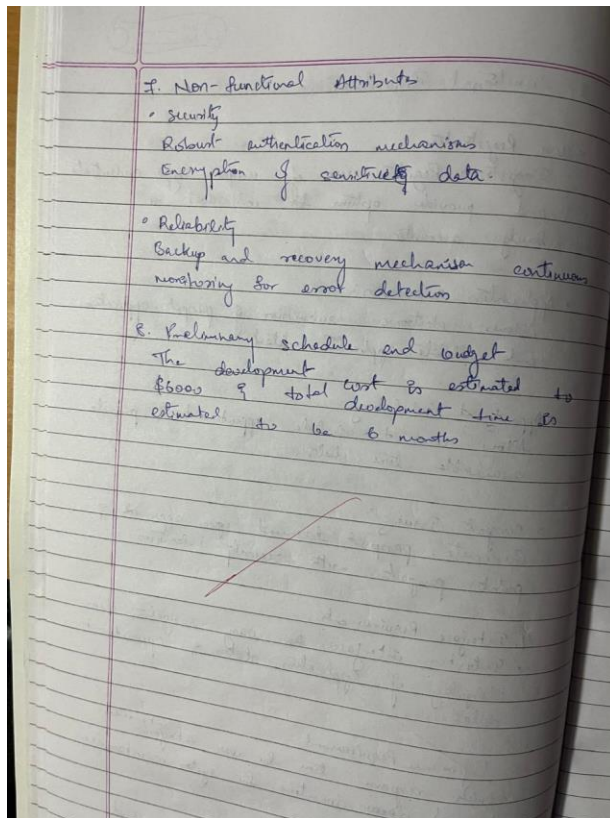
## 5. Passport Automation System

### 5.1 Problem Statement

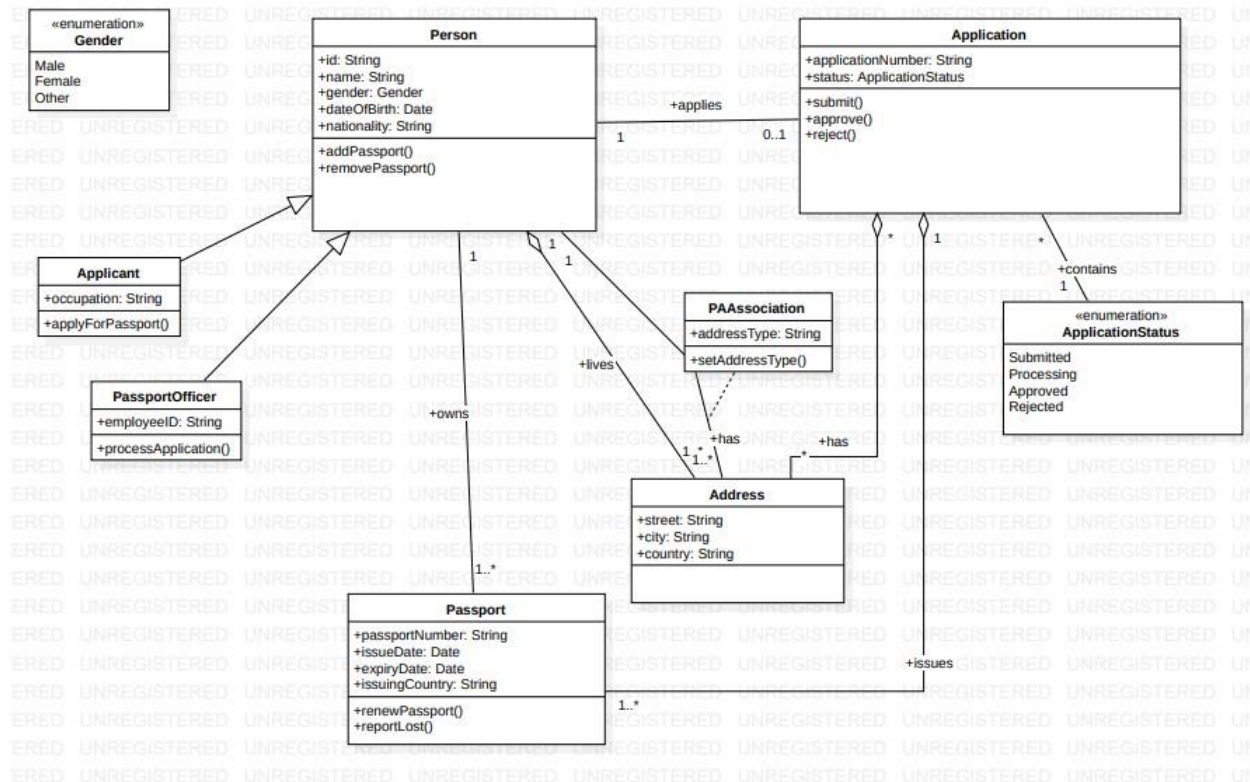
Develop a passport automation system to streamline application submission, appointment scheduling, and status tracing.

### 5.2 SRS-Software Requirements Specification



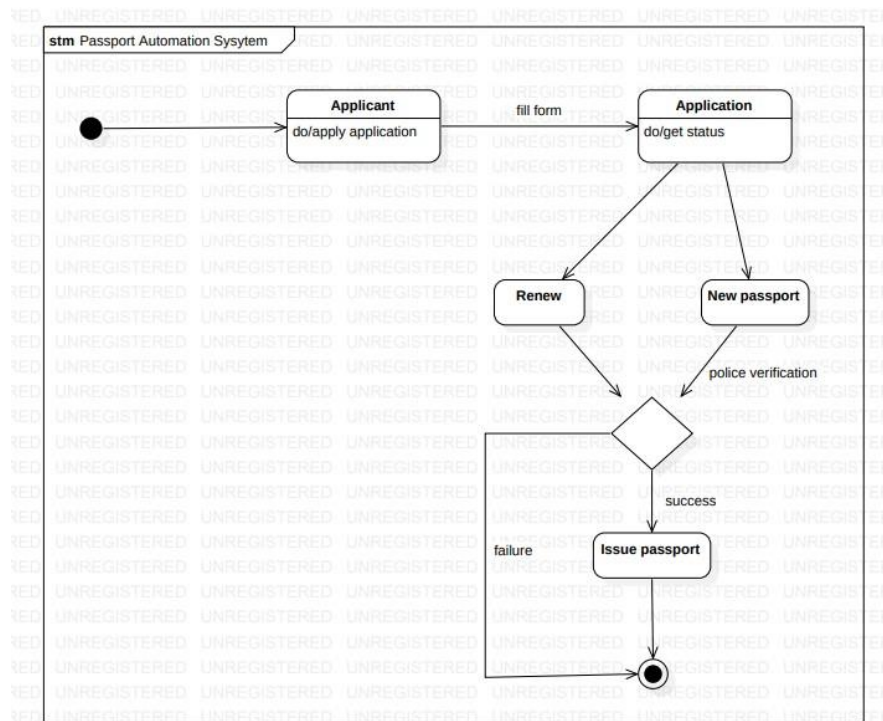


### 5.3 Class Diagram

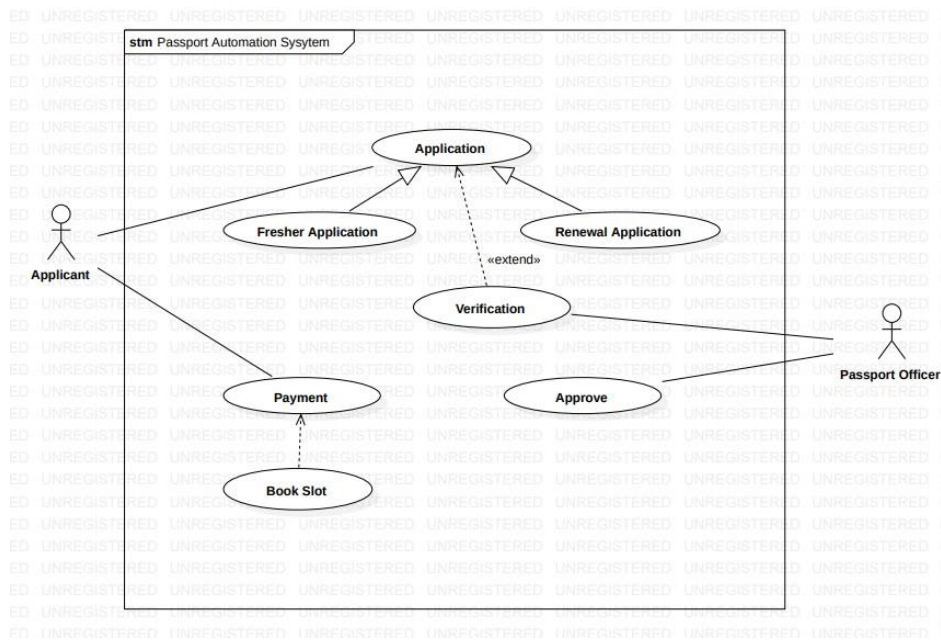




## 5.4 State Diagram

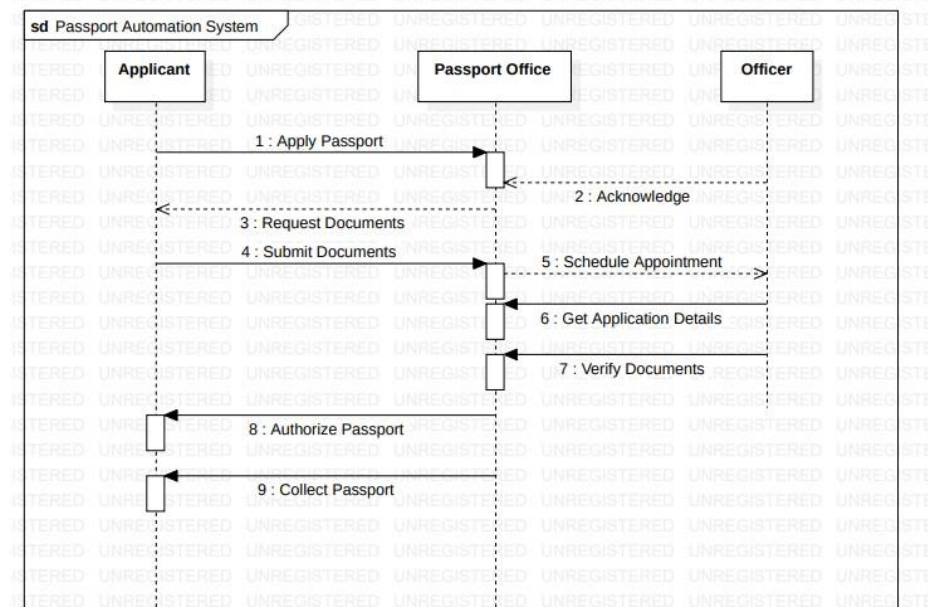


## 5.5 Use Case Diagram





## 5.6 Sequence Diagram



## 5.7 Activity diagram

