

3. Credit Card Management System

a. SRS Document:

Credit Card Processing System :-	
1. Introduction	1.1 Purpose of this Document This SRS defines the functional and non-functional requirements. It provides necessary details, step-wise working needed to create an efficient and robust system.
1.2 Scope of this Document	System must be able to perform:- <ul style="list-style-type: none">- Seamless payment with end-to-end encryption.- Easy to understand and user friendly interface.- Monthly statement generation.
1.3 Overview	Credit Card Processing System must be an embedded system that provides retailers to accept payment through credit cards.
2. General Description	User must provide card to cashier, if user has enabled tap functionality it can be tapped on POS machine otherwise insert into slot / swipe pin must be entered after checking amount. If money is debited return sum and receipt receipt else show error.
3. Functional Requirements:-	<p>Seamless payments</p> <p>User is not complex and doesn't include any technical knowledge.</p>

Easy to use system
Payments are easy as it's just a tap/swipe
is enough for payment.

2d non-
ter necessary
ed to
system -

Monthly statement generation
At the end of each month, track of all payments
is accrued and total amount is sent to user's
account that has to be payed within deadline.

4. Interface Requirements:-

Regional language must be available, list
of options must be clearly displayed on screen
and navigation must be easy.

5. Performance Requirements:-

Response of query must have time limit if
exceeded must timeout and return failure. 2 GB RAM
is minimum to ensure smooth experience.

6. Design Constraints:-

User-friendly UI and International credit cards
cannot be processed.

7. Non-Functional Requirements:-

User pin must not be stored only used to check
after check it must be discarded. Strong hash function
must be for verification as it involves billions of dollars.

8. Preliminary Schedule and Budget:-

The project must be completed with 10 months
and budget to be allocated is \$20,000\$ and
if changes are required reserve budget must be used.

b. Advanced Class Diagram:

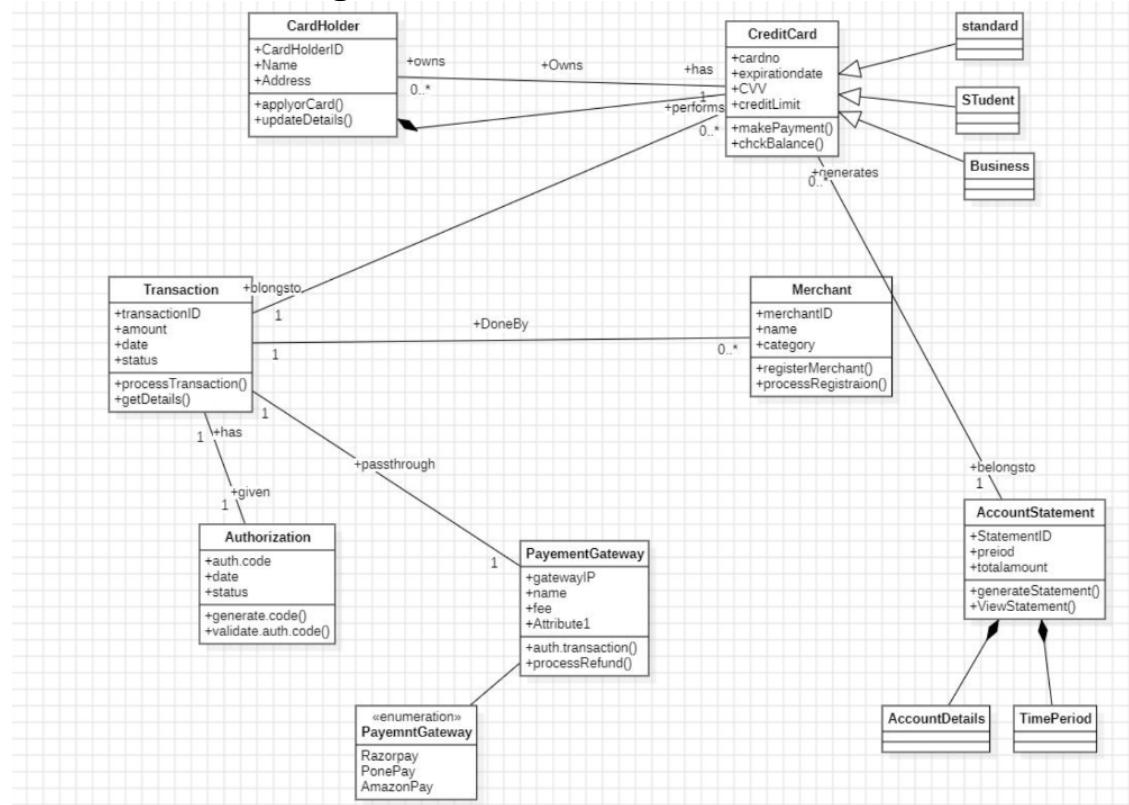
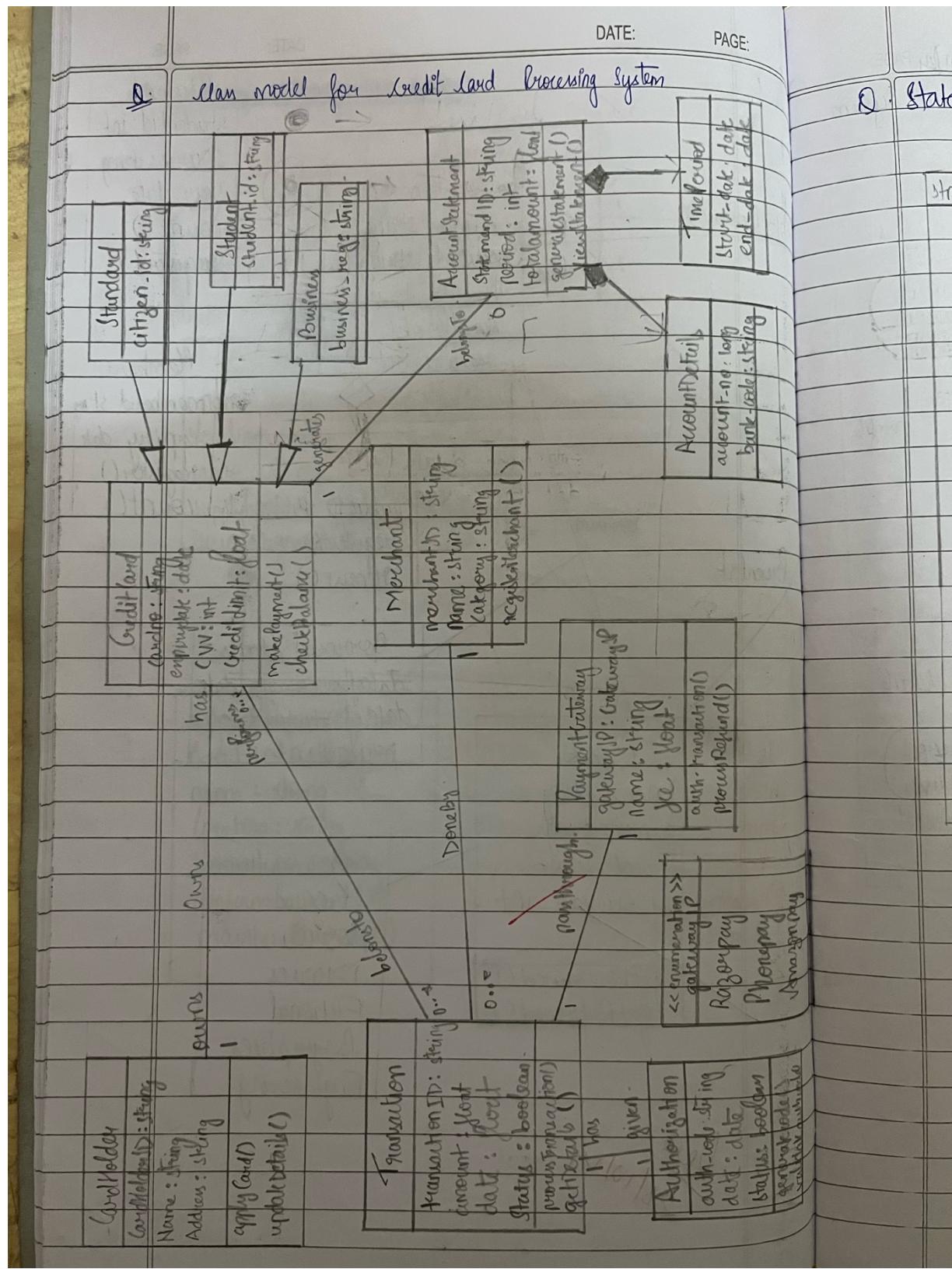


Fig 3.1:

The main entities include:

- Card Holder, who owns a Credit Card used for transactions. The credit card has details like card number, CVV, and credit limit, with operations for payments and balance checks.
 - Transaction, which records details like amount, date, and status, is linked to both Authorization (for validation) and Payment Gateway (for processing or refunding payments).
 - Merchant, which registers businesses accepting payments and processes transactions from customers.
 - Account Statement, which tracks transaction history, generates statements, and is linked to periods and account details.

The diagram also shows inheritance, with specialized credit cards (e.g., Student or Business), and enumerates multiple payment gateways (e.g., RazorPay, PhonePay). It maps how users, cards, merchants, and gateways interact in the system to process payments seamlessly.



c. Advanced State Diagram:

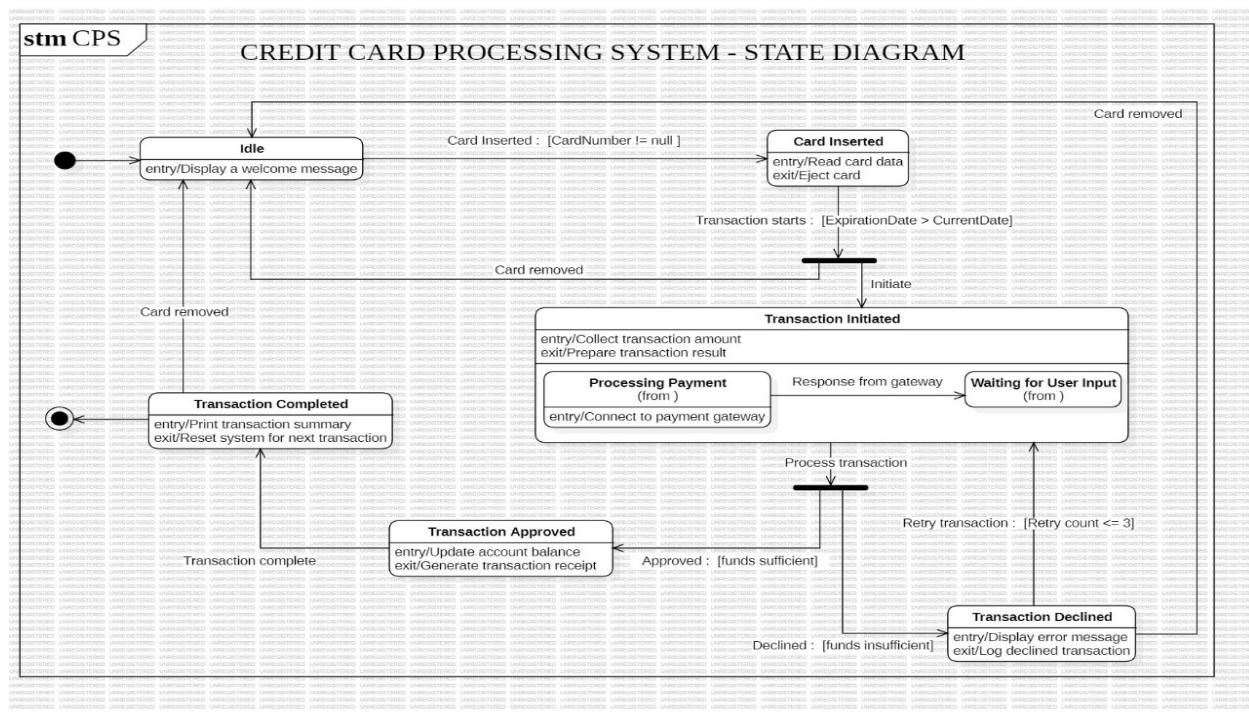
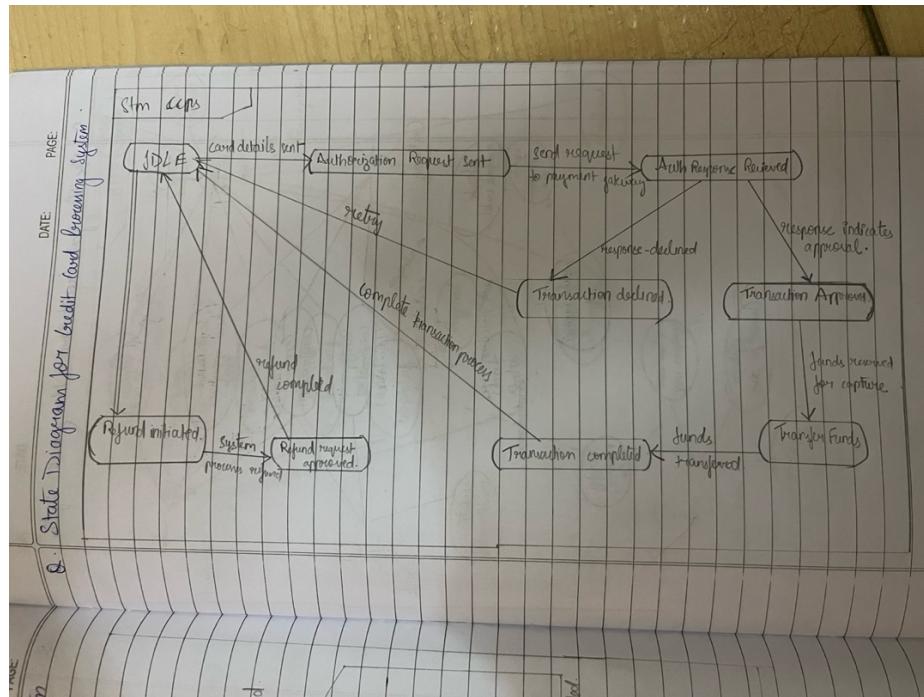


Fig 3.2:



d. Use Case Diagram:

Credit Processing System

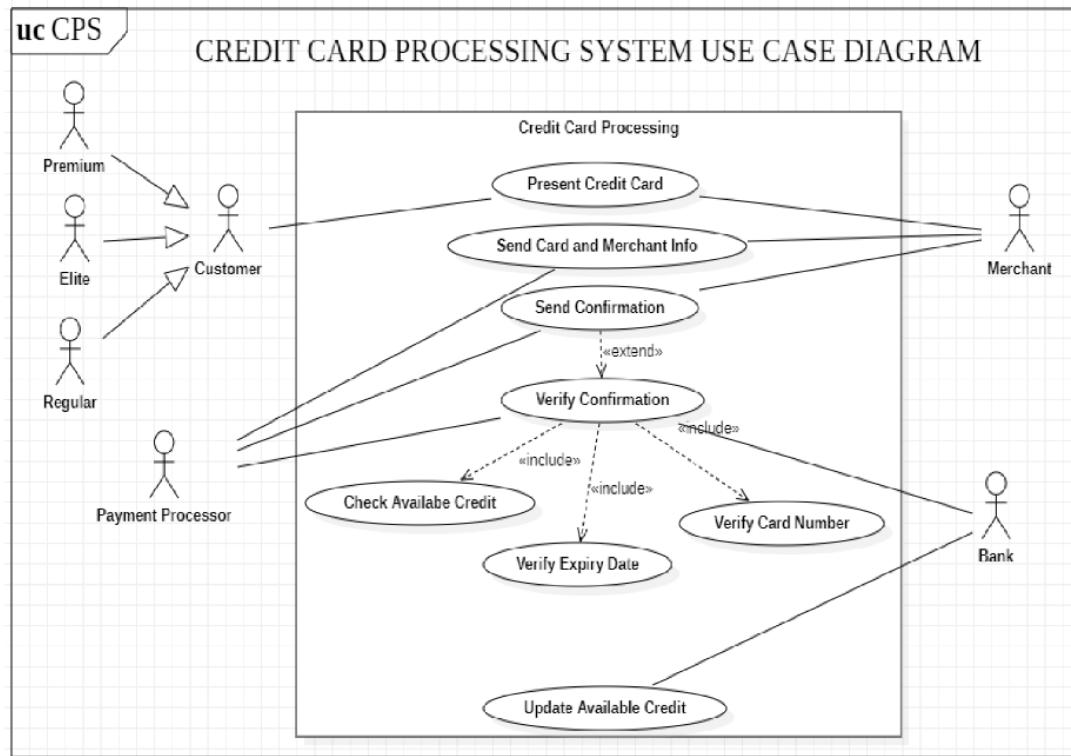
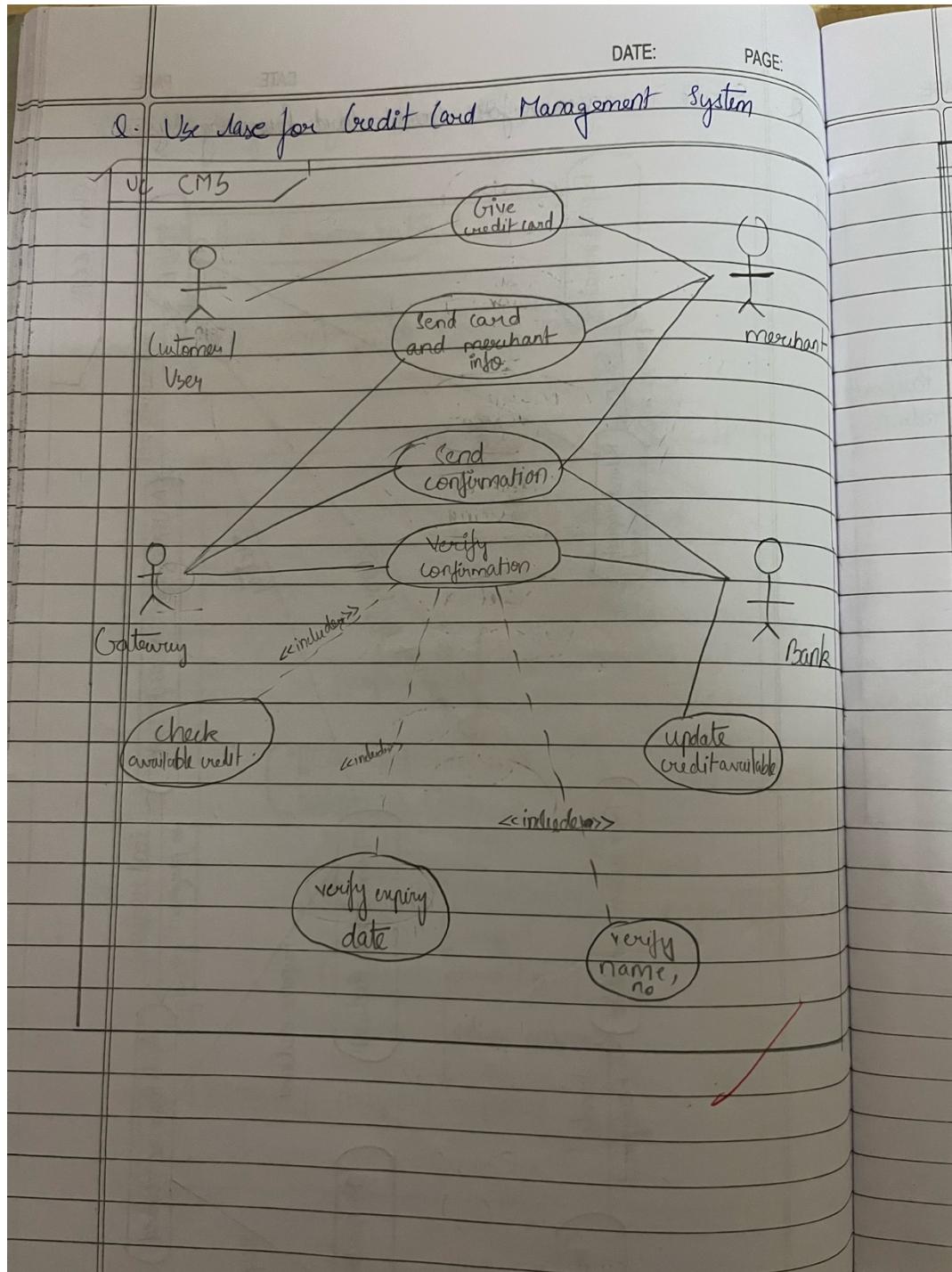


Fig 3.3:



e. Sequence Diagram:

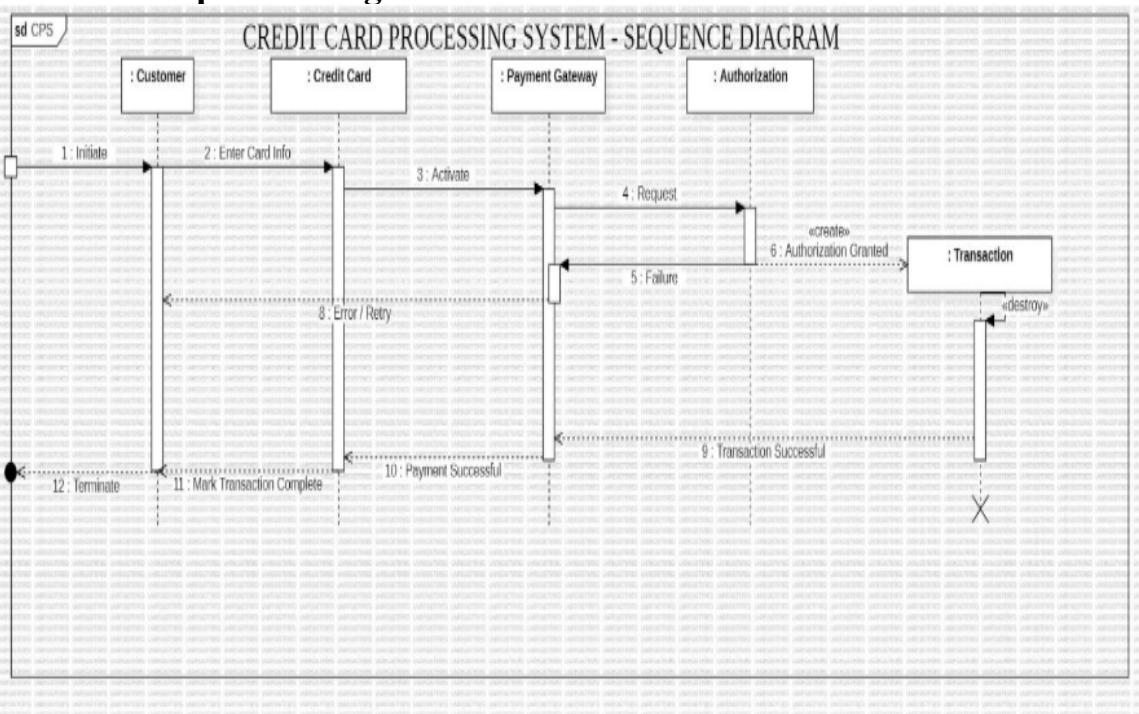
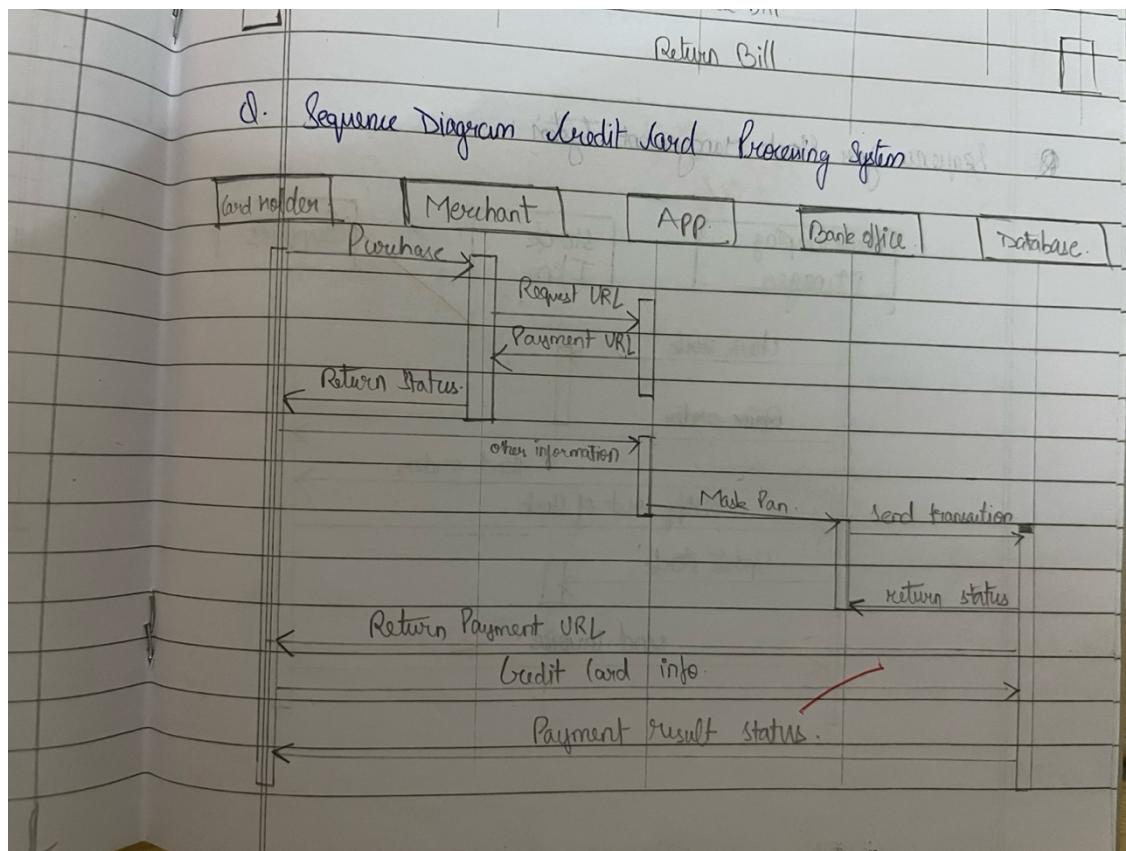


Fig 3.4:



f. Activity Diagram:

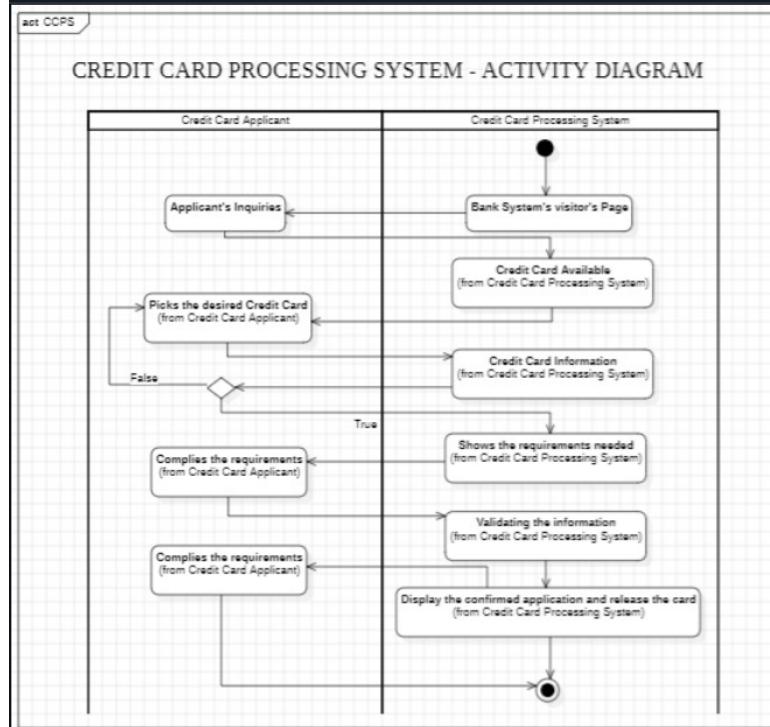


Fig 3.5:

Applicant's Journey:

- The process starts with the applicant making inquiries and selecting a desired credit card.
- If the chosen card is available, the applicant compiles and submits the required documents.

Processing System's Role:

- The system displays the bank's visitor page and shows the available cards and their details.
- It provides the list of requirements needed and validates the submitted information.
- Upon successful validation, the system confirms the application and releases the card.

Decision Point:

- If the card is unavailable, the applicant must re-select or terminate the process.

d. Credit card processing activity diagram

DATE:

PAGE:

