Low Level Design:-

System Design

Low Level Design (LLD) | High Level Design (HLD)

Representation using :-

1) Usecase diagrams
2) Sequence diagrams
3) class diagrams (X.)

Usecase diagrams:-

Usecase :- The functional behaviour of The system.
Actor :- person involved in The usecase.

Library Management system:

Use cases:-

1) Search a book (BookId, author, genre, name....)
2) check The availability of a book.
3) Reserve / checkout functionality.
4) Notification / alert system for making Them return
   via (call / mobile. / SMS).

5) Getting a log of people who have borrowed books.

6) 30 days should be The time, The person. else fine system.

7) return a book by user (fine calculation).

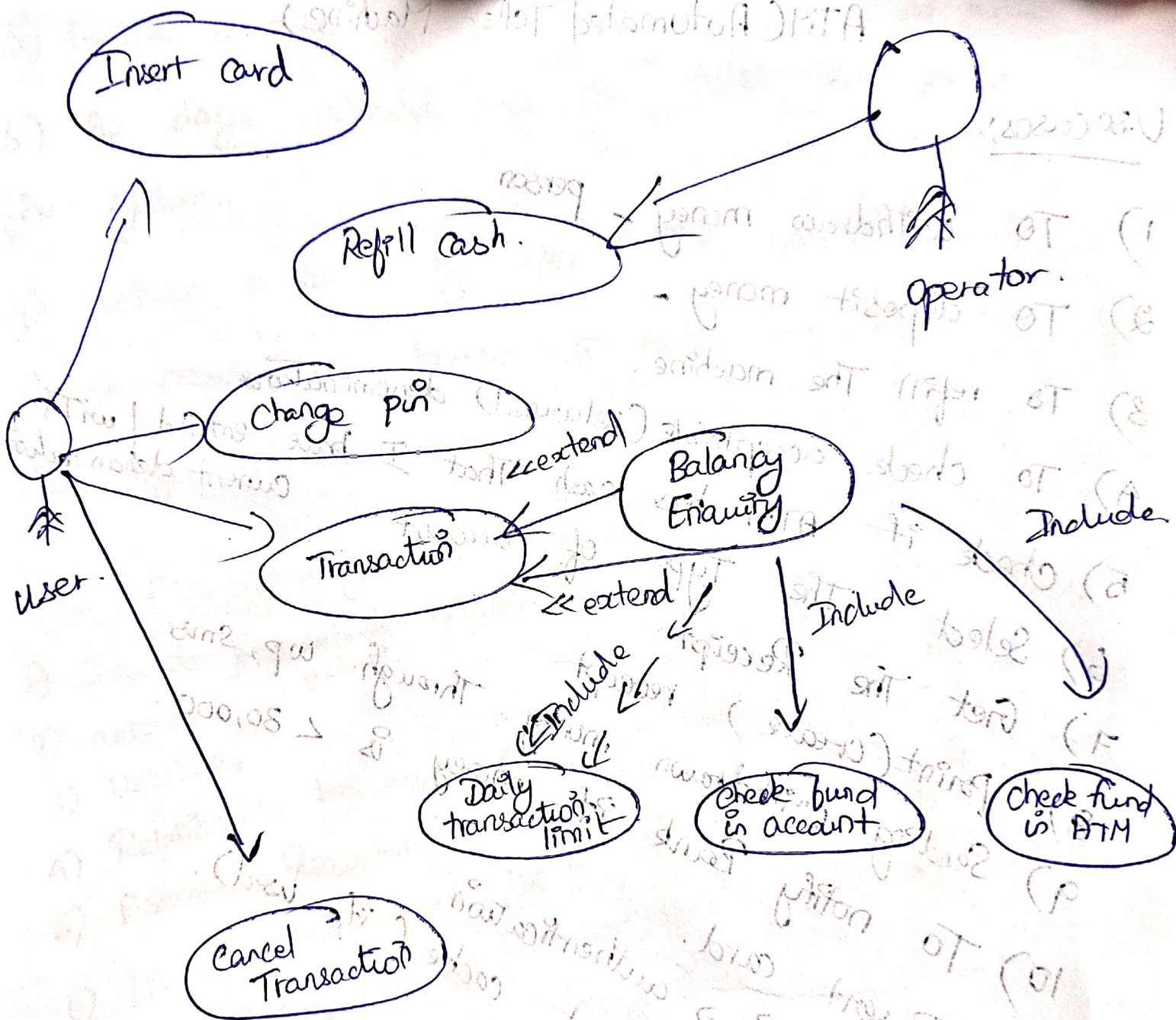8) a person can borrow 5 books only at max

(others refer to class notes).

Terms : (Use case diagrams).

1) Include / ~~exclude~~ extend relationship
   (must happen)

2) actors

3) use cases .

4) Relationship between actor and usecase.

5) Assumed Requirements

6) Library Management system.

7) extend (having multiple options to do The same Thing).

8) Library Management System.

9)

ATMC Automated Teller Machine)

Use cases:-

1) TO withdraw money - person

2) TO deposit money -

3) To refill The machine.

4) To check acceptable (returned) denominations

5) check if ATM has cash That I have entered / with current denomination

6) Select The Type of account

7) Get The Receipt

8) Print (Create) receipt

9) Sending withdrawn money Through WP, Sms

10) To notify Bank if money is < 30,000.

11) Insert card.

12) Verification -> authentication

13) Resetting any set cache (if used).

14) change PIN.

15) Balance enquiry.

16) check if user has That amount

17) check for daily transaction limit

Insert card

Refill cash.

Operator.

Change pin

Balance
Enquiry

Include

«extend»

Transaction

«extend»

User.

Include

Include

«Include»

Daily
transaction
limit

Check fund
in account

Check fund
in ATM

Cancel
Transaction

Homework:

Learn all about OOPS.

[class, Inheritance, abstraction, etc].

[classes,
Objects
Inheritance]

Elevator System :-

1) Enter The Lift
2) Choose a floor.
3) press an emergency alarm.
4) check if The elevator weight > 1000 kgs.
5) auto open/close based on sensors.
6) Sense if any anomaly is There and invoke alarm.
7) chose up/down.
8) open/close door.
9) Display direction.
10) display floor.
11)

Always start from The basics and build on top of
That.

Online chess Game :-

1) choose single player/2 player.
2) Choose The second player to be computer/other
online player.
3) Display The Board.
4) choose Their side (if single player).

5) Change turns.

6) Make moves.

7) Check for checks (Intermediate).

8) Validate and show possible moves.

9) Customize board.

10) Customize coins.

11) Customize Themes.

12) Calculate and take The best possible move
if The computer is playing The game.

13) login (possible).

14) Join a game { Level based with computer.
                  Level based with multiplayer.

15) Show Winner.

16) If multiplayer, Show LeaderBoard.

17)

Usecase Diagram :-

Ludo, snake/ Ladder, chess.

Amazon → All E-commerce.

Facebook → Insta, snapchat, Social Media

BookmyShow → Concertbooking, IPL Booking

1) Login / signup.

2) Browse Through movies.

3) Search a movie. by title, actors, directors, genre, language, release date

4) Pick a movie.

5) View Theatres screening them (Location based)

6) ~~View seating position~~ pick date.

7) Pick time.

8) View screen position & seating location.

9) Select seats

10) If seats are selected, blocked for 10 mins.

11) Select no. of seats

12) Payment Integration with coupon code.

13) View booking.

14) Cancel booking.

15) print / export booking PDF.

16) Notify Movie time (SMS)

17) choose snacks

18) Add / remove movies.

19) Add / remove shows