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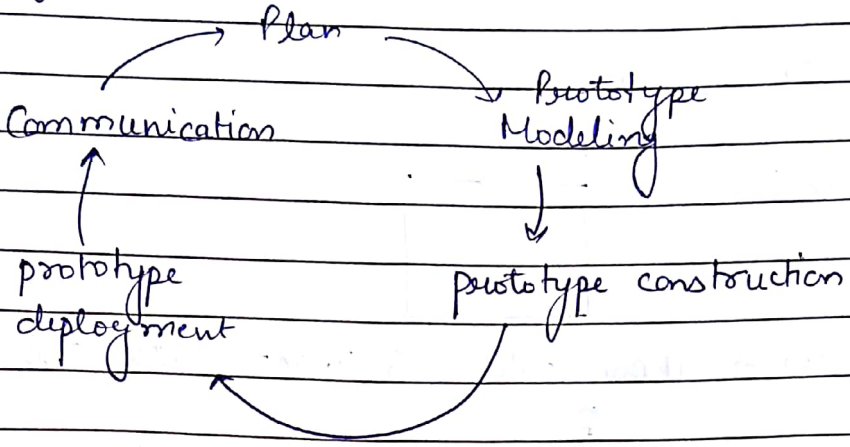
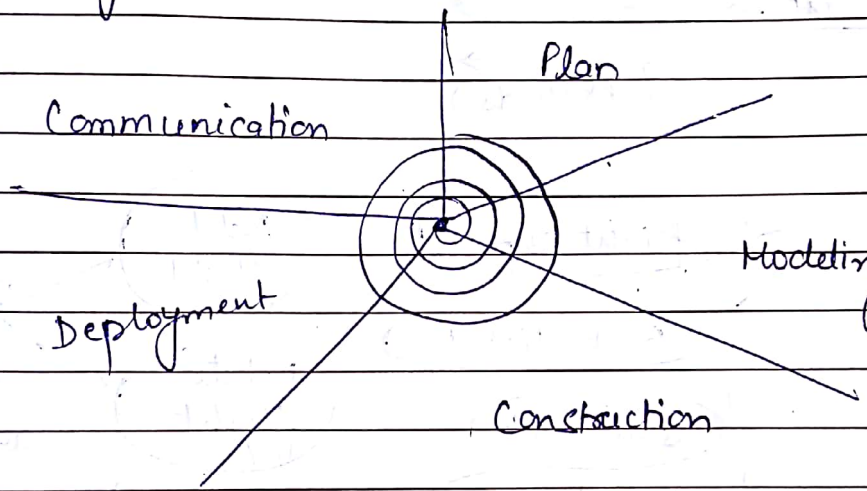
Models

Prototype Model :-



Spiral Model → combination of waterfall model and prototype model



Move in the form of spiral.
Have detailed info how to make model.
∴ reduce overhead.
Consist of risk manager at every stage.
Used in high projects
costly

Prof #

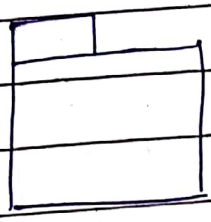
Agile S/w

→ dynamic
→ content specific
→ change embracing → (change can be made at any stage)

→ growth oriented

⇒ Use case diagram :-

System

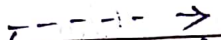


Actors → those which interact with s/w

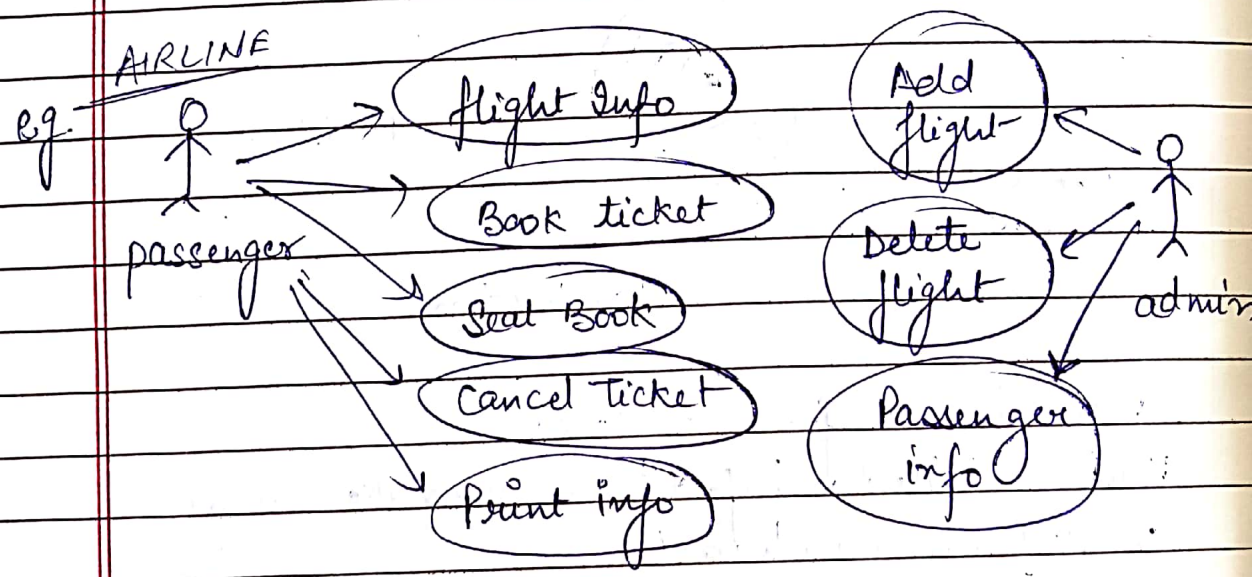
Use cases →

(work done)

Relation ship →



(extends)



Q1. Clg info system.
Q2 Library management system.
Q3 Hospital management
Q4 Online shoping
Q5. Banking

Theory

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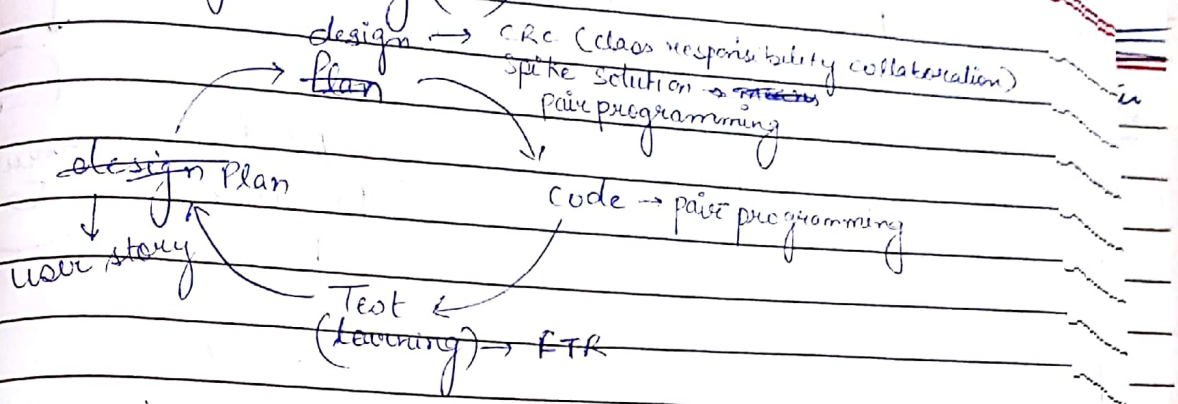
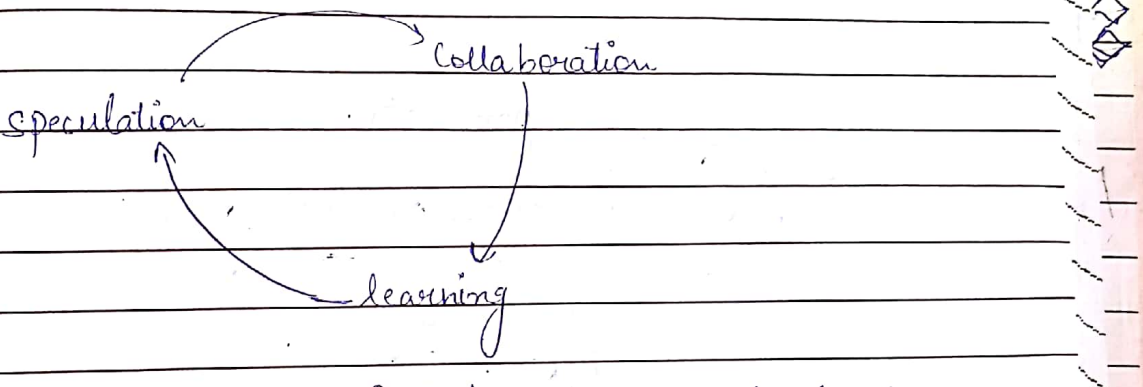
Extreme Programming (XP)



Refactoring → modify internal structure.

Adaptive S/w development (ASD)



In Speculation we include 1. Adaptive cycle planning, 2. Mission statement, 3. requirements. 4. Project constraints. 5. time based release plan.
(main motive behind our s/w) (clients requirements) (deadline)

In collaboration we include 1. FTR
2. Focus groups
3. Postmortems

SCRUM (strategy used in agile.)

↓

Sprints (work performed

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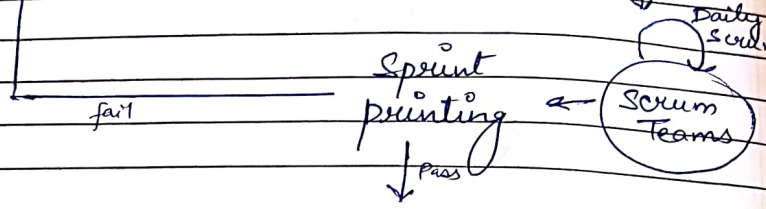
product backlog → design sprints → sprint backlog

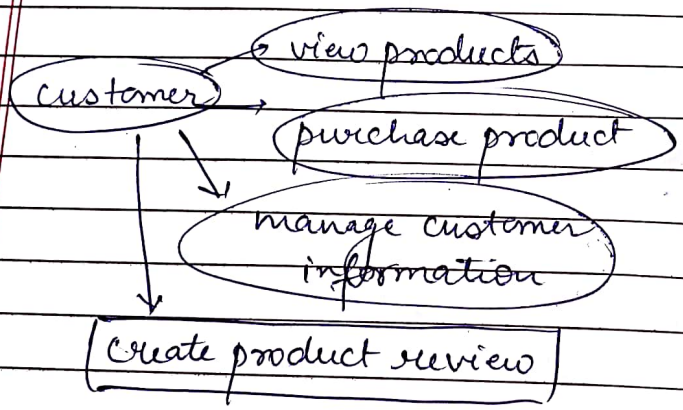


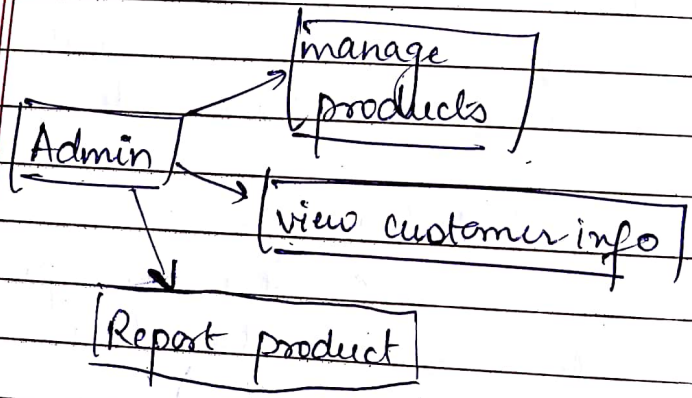
Increment

Scrum created by Jeff Sutherland in 1990's

× ——— ×

Lab





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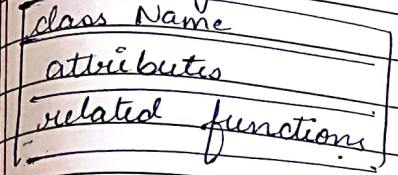
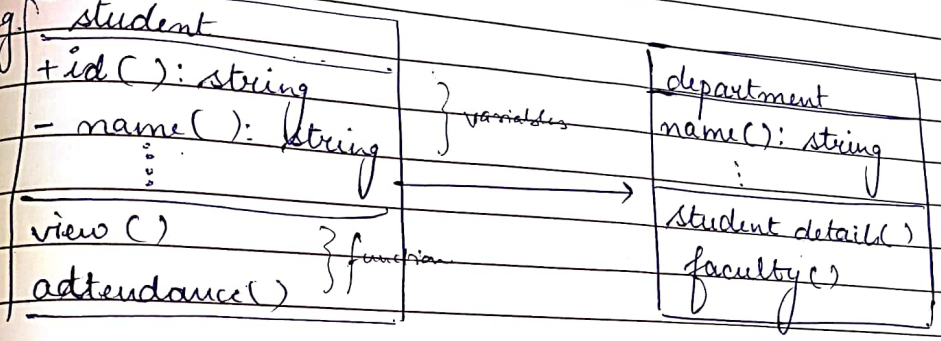
Class Diagram



+ public
- private
protected
/ derived

eg.



generalisation → relationship b/w classes. ⟶▷

aggregation → relationship b/w objects →

diff b/w association and aggregation.

↓ ↓

⟶ ⟷◇

Req Elicitation :-
→ Interviews
→ Brainstroming sessions
→ FAST

SRS :-
→ functionality
→ External interface
→ Performance
→ Attributes
→ Design constraints.

Characteristics of SRS → correct
→ unambigious
→ Complete
→ Consistent
→ verifiable
→ modifiable
→ Traceable

⇒ Data flow

○ function
= file / db
▭ i/p / o/p
↷ flow

Bubble chart
Designing tool used in top-down approach to System design.

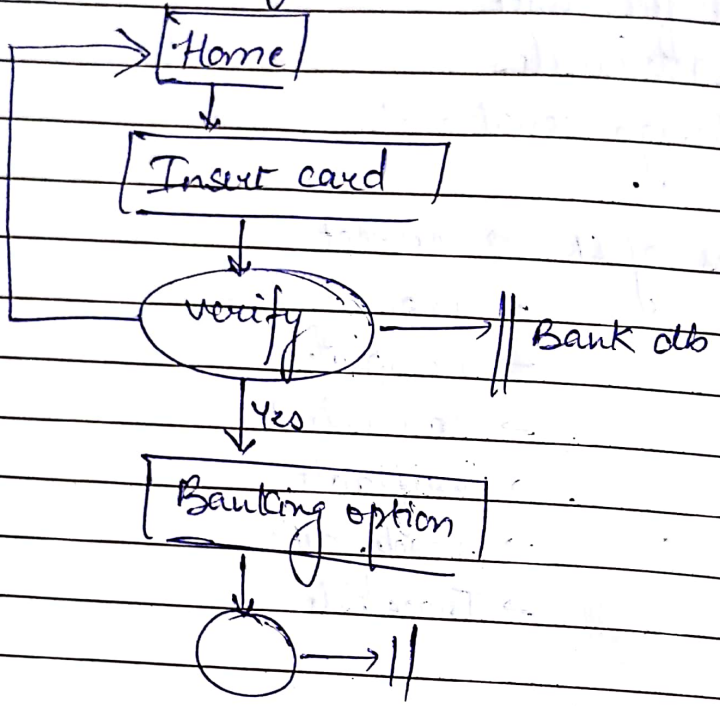
→ ER diagram → logical representation.
3 basic elements → entity are the 'things' for which we want to store info. An entity is a person,

place, thing or event.

→ attributes are the data we want to collect for an entity

→ Relationship describes the relations b/w the entities

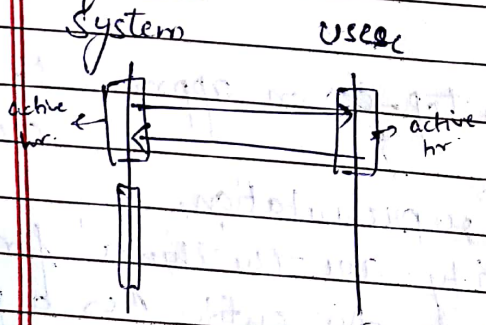
Data flow Diagram (DFD)



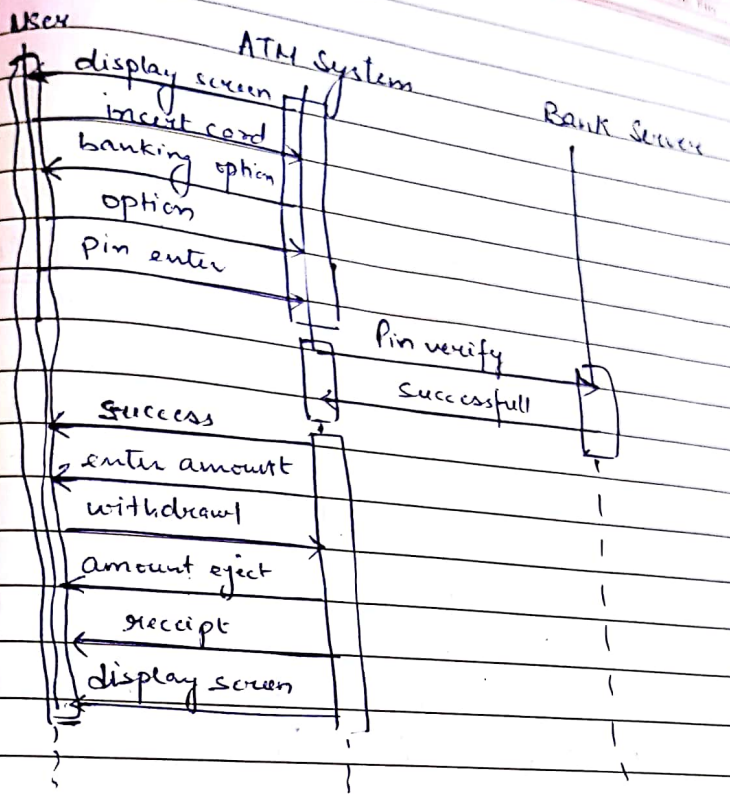
Interactive Diagrams :-

Sequence collaboration

→ Sequence

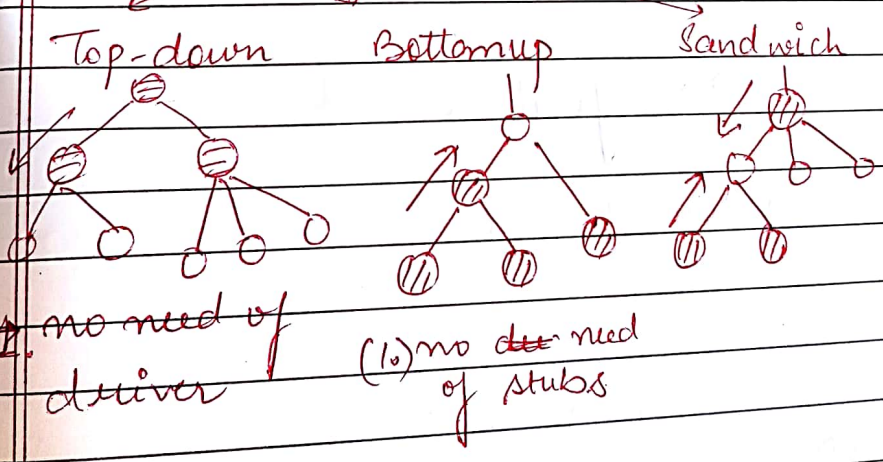


ATM Machine



THEORY

Integration Technique.



1. ~~no need of~~ driver

(1.) no ~~dri~~ need of stubs

Q. Sum of 2 nos. find error, fault and failure in this code.

```
{ a=10;
  b=20;
  c=a-b;
  printf("sum of nos %d", c);
}
```

Hr will not get correct output. & whole module will be wasted. So this is failure.

error → coding mistake. c=a-b

fault → fault comes in line c=a-b due to which whole module fails.

→ Verification
→ Validation

Q what is verification and validation?

Verification means, har module ~~ke~~ face ke baad check karenge module sahi chal raha hai ya nhi

Validation → complete ~~module~~ s/w banne ke baad check karenge ki vo requirement ke acc" sahi bana bhi ya nahi.

Unit
Integration → Verification
System
Acceptance → validation.

DFD

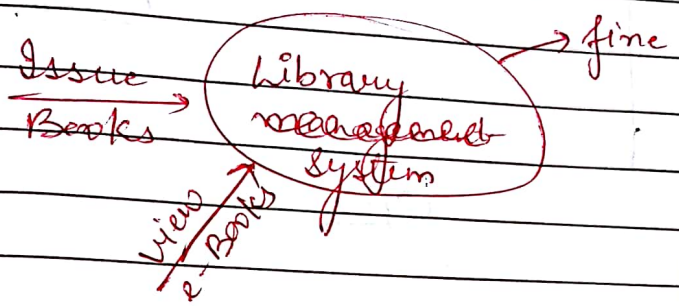
Level 0 → context diagram.
Level 1 → DFD

Level 0 →
eg.

Level 1

Level 0 → ek cos hi pura system show karega

eg.



Level 1