

SCRUM

SM = Scrum Master

PO = Product Owner

representative
of the end-users

that collaborates
with the
team

UML

Object Oriented System Analysis and Design

maximum time
spent on design

it uses object oriented
fundamentals

Characteristics

- ① It uses the 4 principles of object oriented programming.
- ② Focus should be on objects.
- ③ More importance on modeling the software.

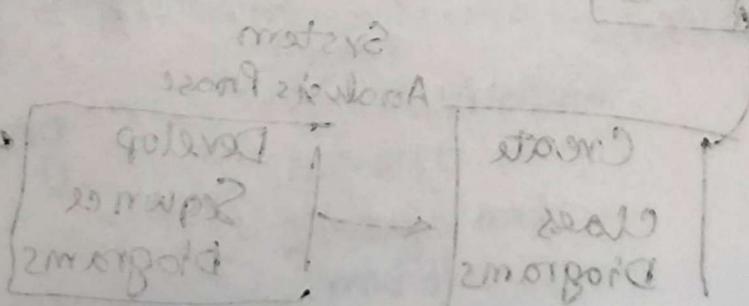
classes
object

inheritance
polymorphism
encapsulation
abstraction

four
principles

multiple
objects
multiple
methods

responsibility
abstraction
concreteness



When to use OOSAD?

- Rapidly changing features and updates
- When the system is very complex

Benefits of OOP

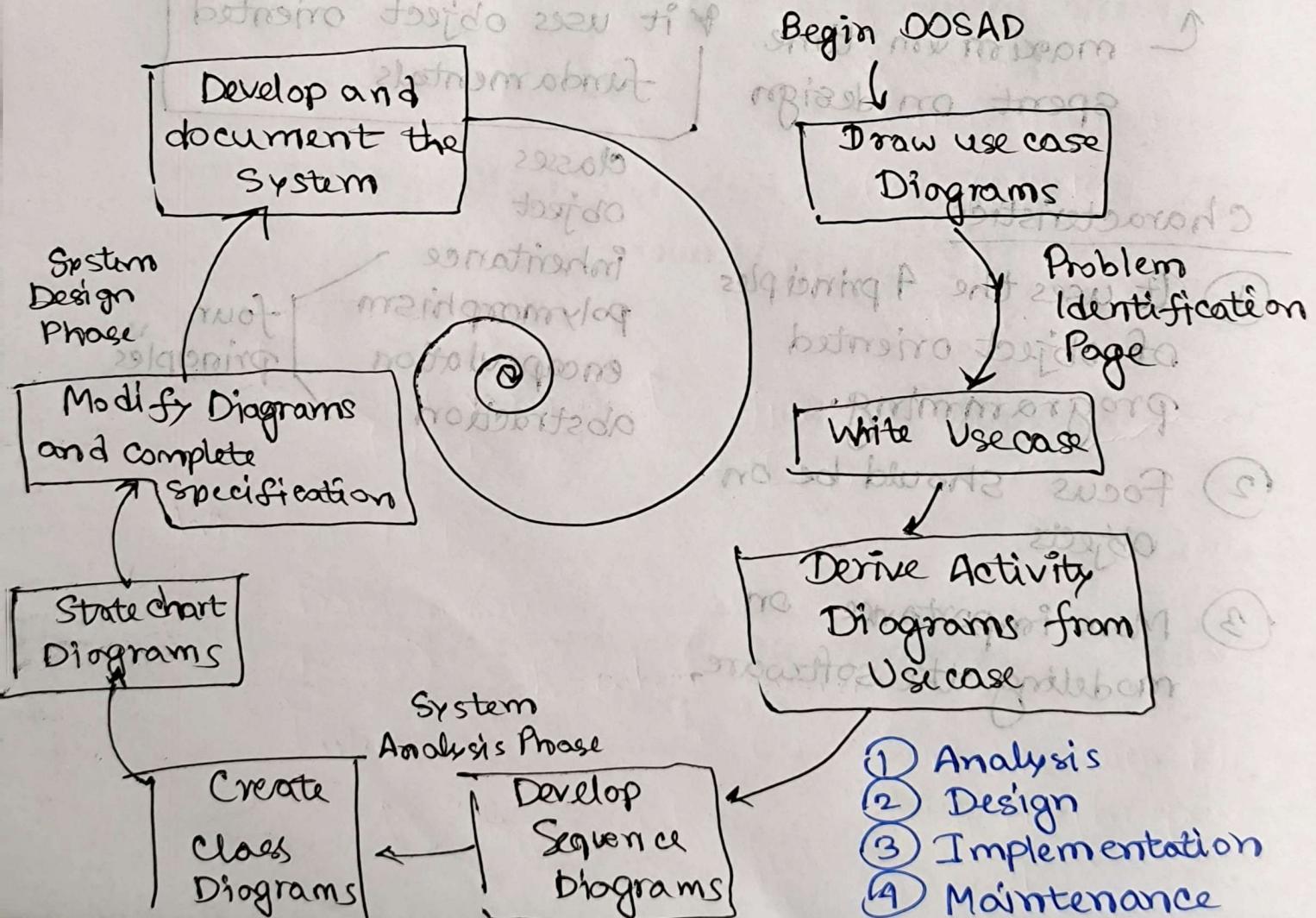
- ↳ reusability
- ↳ modularity

Why and when we should use these three methodologies

Tools to design

OOSAD based softwares (chapter 10)

↳ UML = Unified Modeling Language



Difference chart of SDLC, Agile, UML

chapter 1 : done

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① Gantt chart
② Simulacrum
③ Protototyping
④ Agile

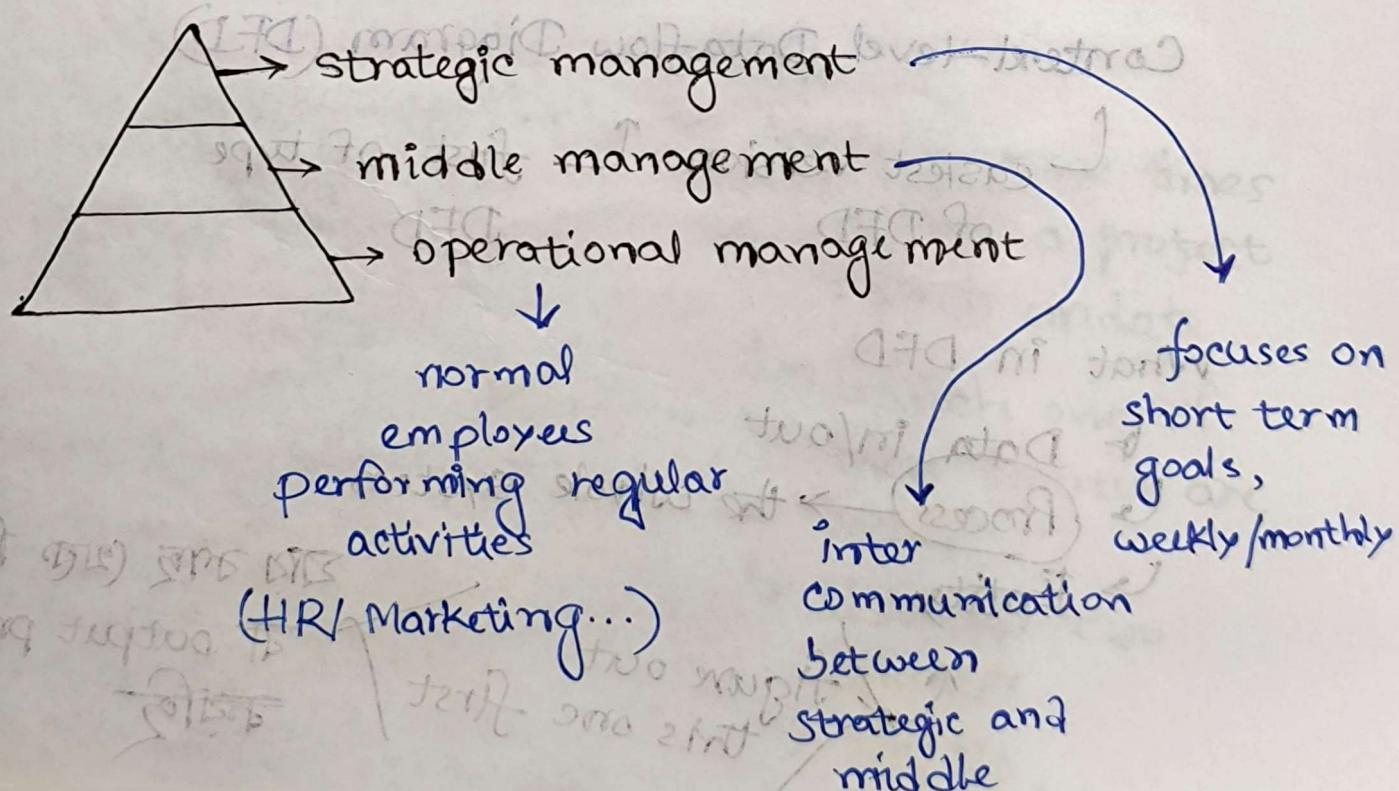
Chapter II : Understanding and Modeling

Organizational Systems

- DFD
- Entity Relationship Diagram
- Use case Diagram

Three main forces interacting to shape organization

- Levels of Managements
- Design of Organization
- Organizational Cultures



Organizational Environments

- ① Community
- ② Economic
- ③ Political
- ④ Legal

Open ^{System} Organization

System
Close ^{Organization}

hidden
secrets

not
freely
accessible
information
(rules/policies)

Context-level Dataflow Diagram (DFD)

easiest version → first of type
of DFD

DFD

What in DFD

→ Data in/out

Process

the whole system

→ Entity

figure out

this one first

যায় কাছে থেকে নিষ্ঠি

বা output provide

নিষ্ঠি