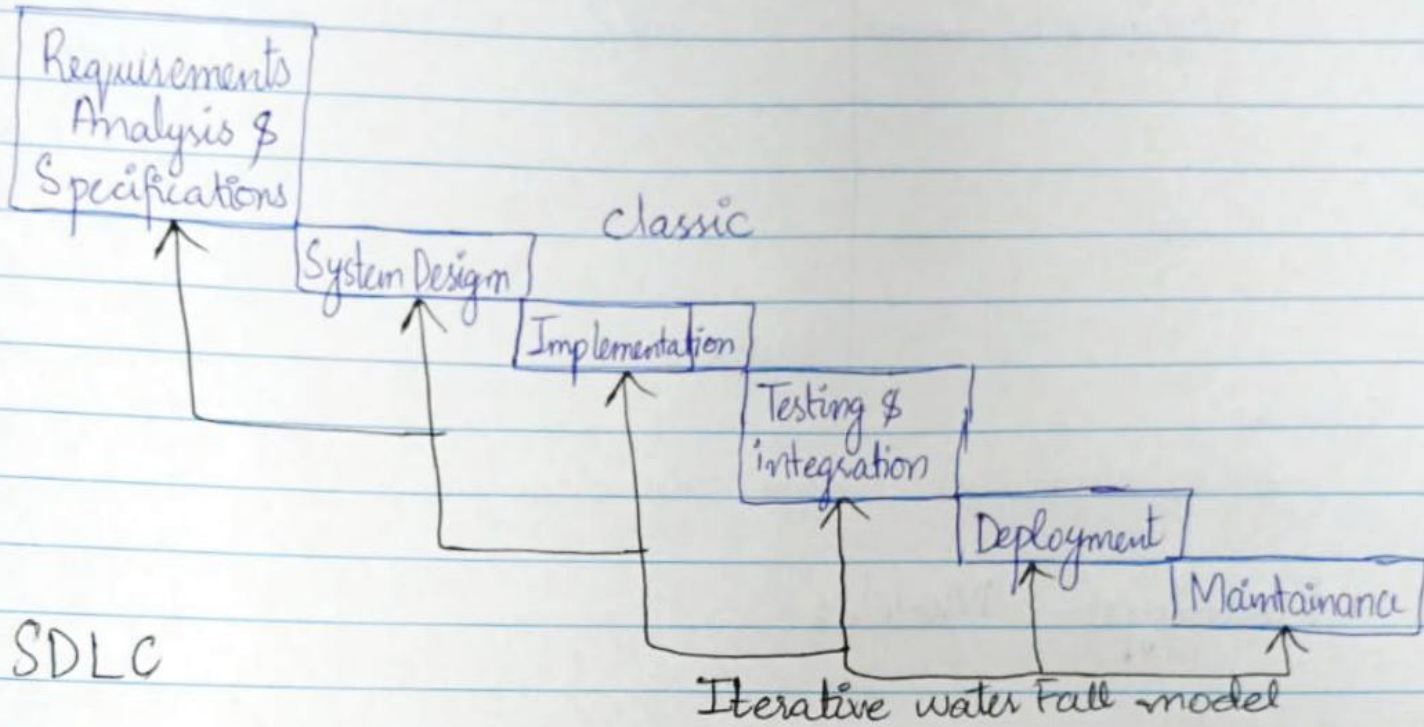


## Process Models

Feb 03, 2026

WaterFall model:



SDLC

V-Model:

Requirement Analysis



System Design



Program Design



Coding /  
Implementation

Deployment / Maintenance

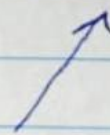
Customer's Feedback



Testing



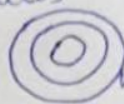
Testing (unit Testing /  
Integration testing)



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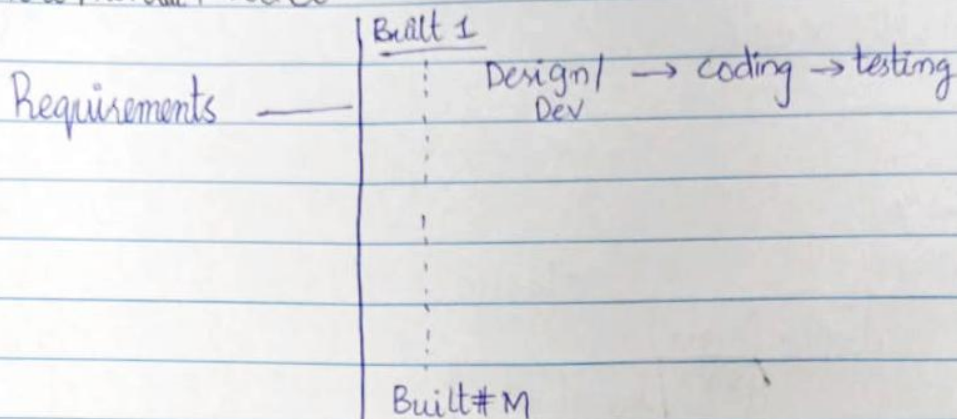
Built → modules



wrapping on the  
same model.



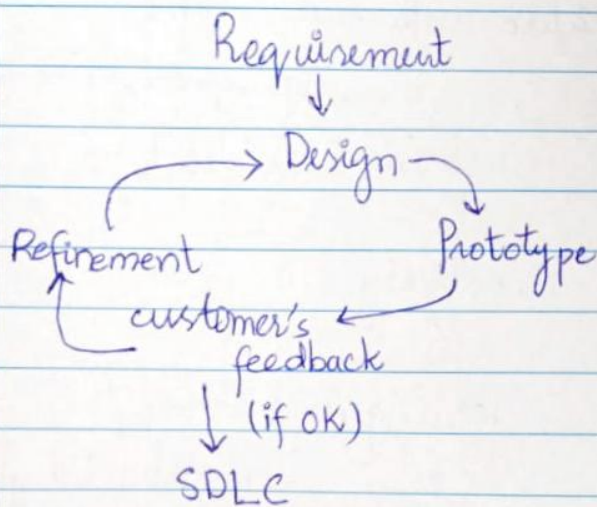
## Incremental Model:



system

can be expanded, can have changes...

## Prototype Model:



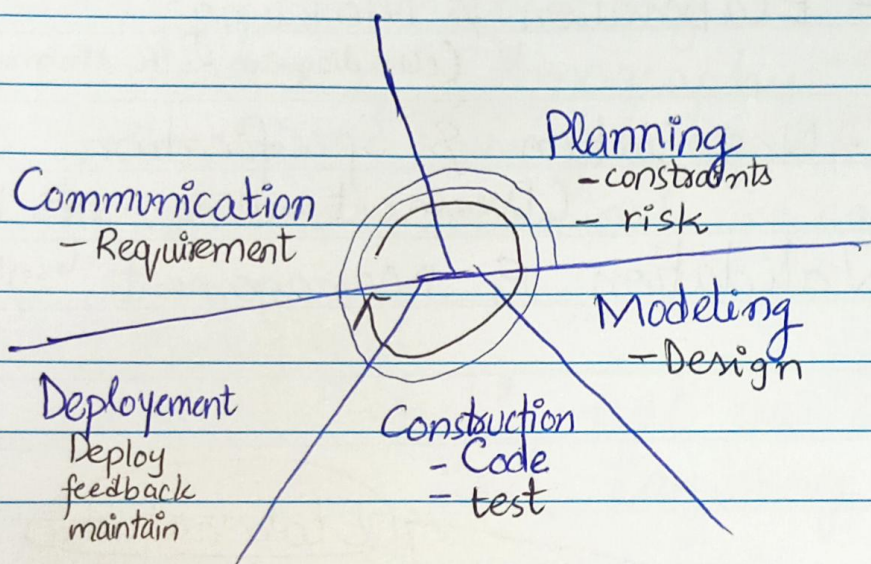


Feb 10, 2026

Spiral model  
(To eliminate risk)

min of  
iterative,  
prototyping,  
waterfall.

ideal:  
(3-4 spirals)



Risk:  
Prob. of having  
a loss.

"identify risks first  
then remove it and  
then start."

when to use: we don't want to task risk (larger projects)  
constraints: time and resources.

Justify the use of spiral model  
Prob. statements:

risks involved:



# Unified Process Model

Feb 12, 2025

Phase:

→ is it can be done?

1) Discovery - Inception & Elicitation

2) Analysis - Elaboration & Modeling

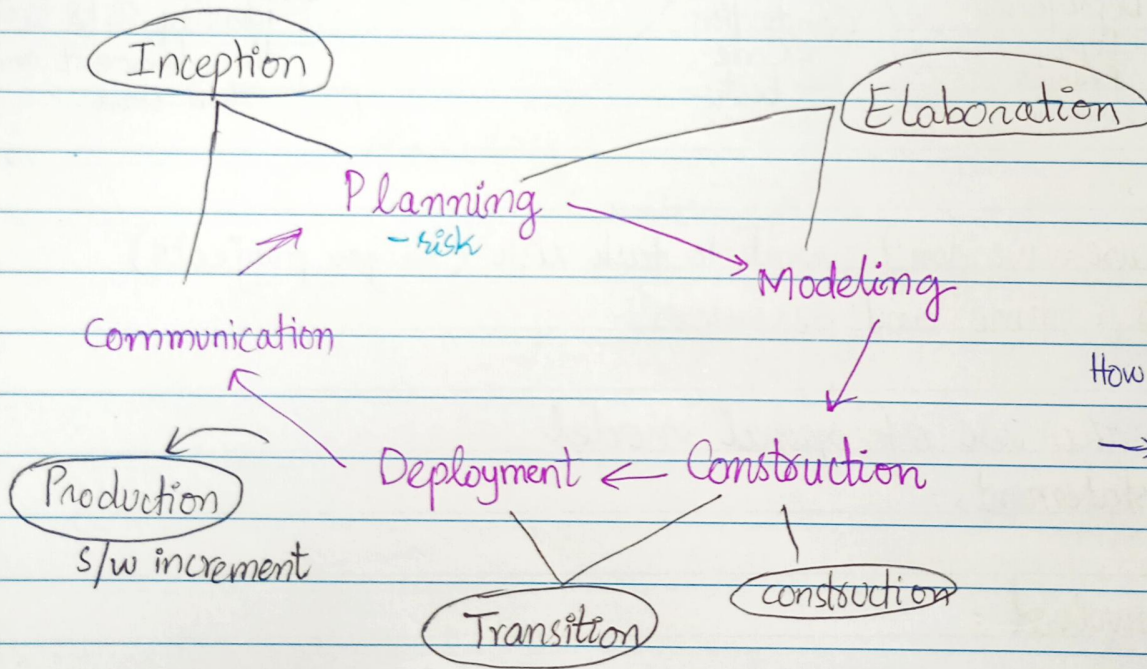
(class diagram, E/R diagram, DFDs etc)

3) Agreement - Negotiation & Specification

(Document outline / SRS template)

4) Control - Validation & Management

↳ software requirement specification



How it differs from spiral?

→ eliminate risk at the start

(high risk + budget constraints)

when uncertain

↑

→ Experimental & research based: Spiral.



## ★ Elicitation techniques :

- 1) Direct: interviews, focus groups, requirement workshops, brainstorming.
- 2) Observation: Ethnography → monitoring for a long time?
- 3) Indirect: <sup>Qualitative</sup> Surveys / <sup>quantitative</sup> Questionnaire, <sup>Analysis</sup> Document
- 4) Iterative: Scenarios / use cases, Prototyping

→ agreement / disagreement based discussion  
→ gathered stockholders

## Modeling Principles:

- Focus on 'what' not on 'how' ;
- Abstraction and layering,
- Minimize coupling,
- Traceability,
- Maintain consistency.

Scope creep

↳ Gold plating  
(doing work more than required)



Feb 13, 2026

Data Flow Diagram (DFD):

- Entities / user : src / sink
- Process
- DataFlow
- Data store (DB)

E

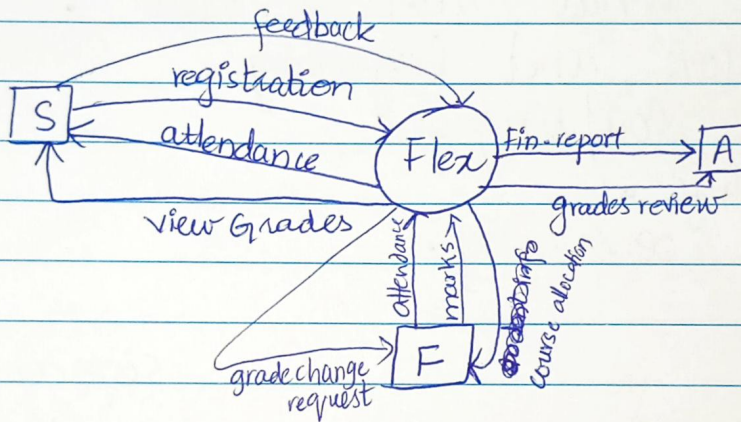


info  
entit

DB name

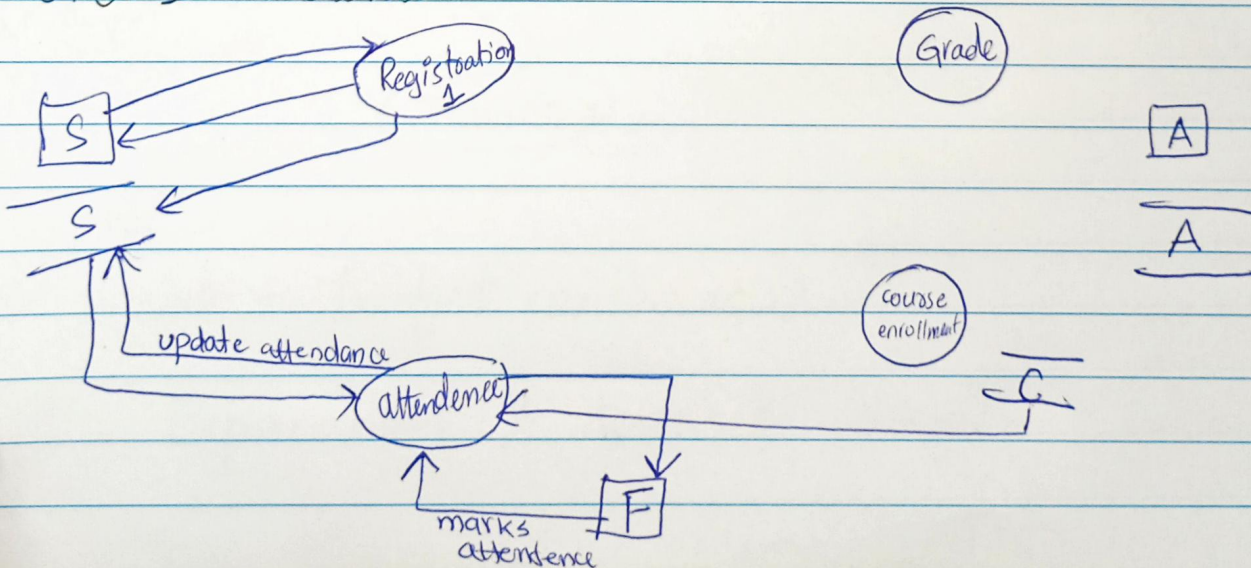
Entity can't direct access the DB or any other entity.

Level 0: (system, entities & broad overview)



Flex  
Level.

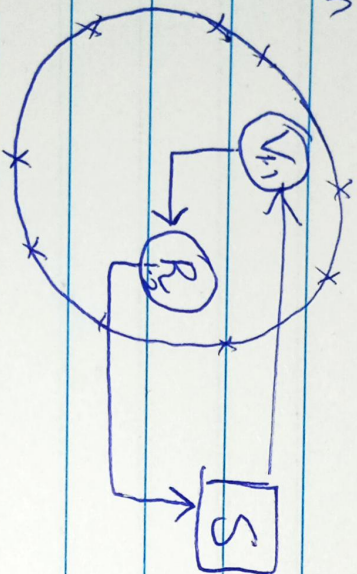
Level 1: Processes:





level 2 : Process is divided into subprocesses.

① Validation  
② Registration



H.W: 1 Example

Submit in next  
class.