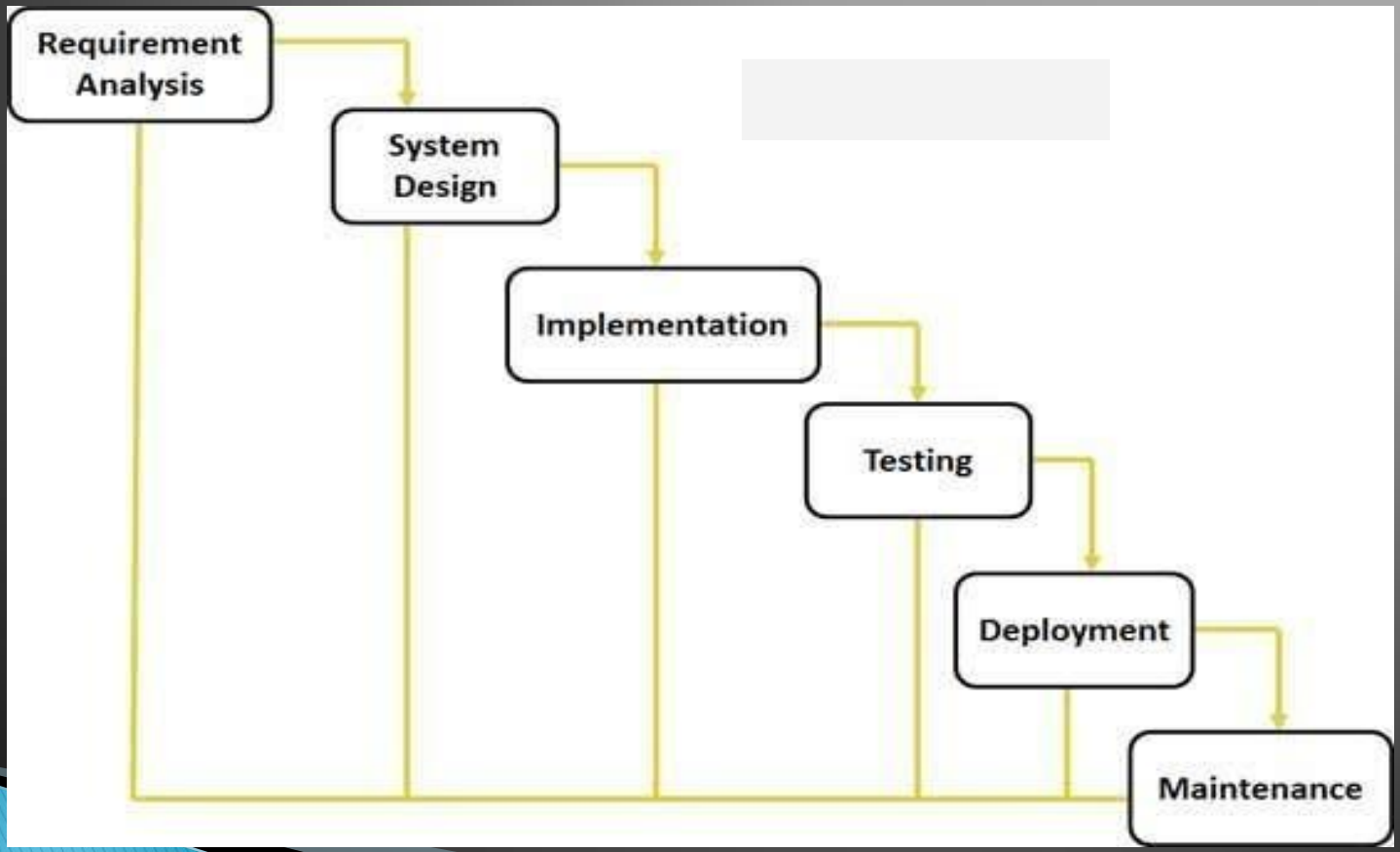
SDLC Models

- Waterfall Model
- Spiral Model
- V- Model

Waterfall Model

- It is the first sequential-linear model because the output of the one stage is the input of the next stage.
- It is simple and easy to understand, which is used for a small project.

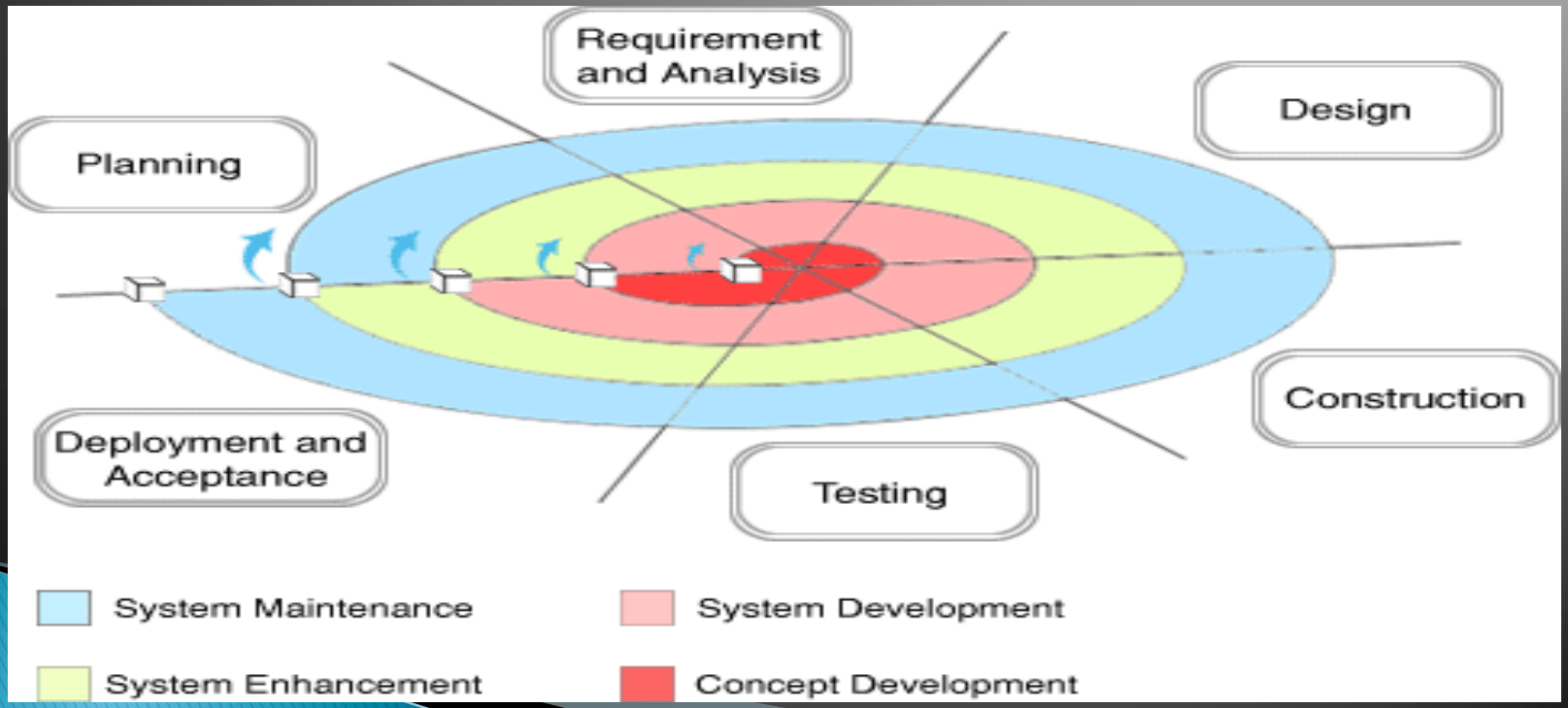


Pros and Cons of the Waterfall Model

Pros	Cons
In the Waterfall model, the requirement should be clear.	This model has no parallel deliverable, which means that two teams can work together.
It is suitable for a smaller project where needs are well understood.	The waterfall model doesn't provide the requirement changes and requirement review.
This model is easy to understand, as well as easy to use.	Previously, when the waterfall is invented, there is no concept of testing, that's why the developer is used to test the application.
It will allow us to arrange the tasks efficiently.	In between, changes are not allowed because one phase is dependent on another stage.
In this model, release level changes are allowed.	Backward tracking is not possible.
In this model, the procedure and the results are well documented.	It is a time-consuming process.

Spiral Model

- we create the application module by module and handed over to the customer
- So they can start using the application at a very early stage.
- we develop the application in the stages because sometimes the client gives change in the requirements in between the process.



Key Point for Spiral Model

- It overcome the drawback of waterfall madel
- We follow this model whenever there is dependancy on modules
- In every cycle new software will be released to the customer
- software will be released in multiple versions. So it is also called version control model

Cont…

Advantages:

- Testing is done in every phase of cycle
- Customer will get to use the software for every module
- Requirement changes are allowed after every cycle before going to the next cycle

Disadvantage:

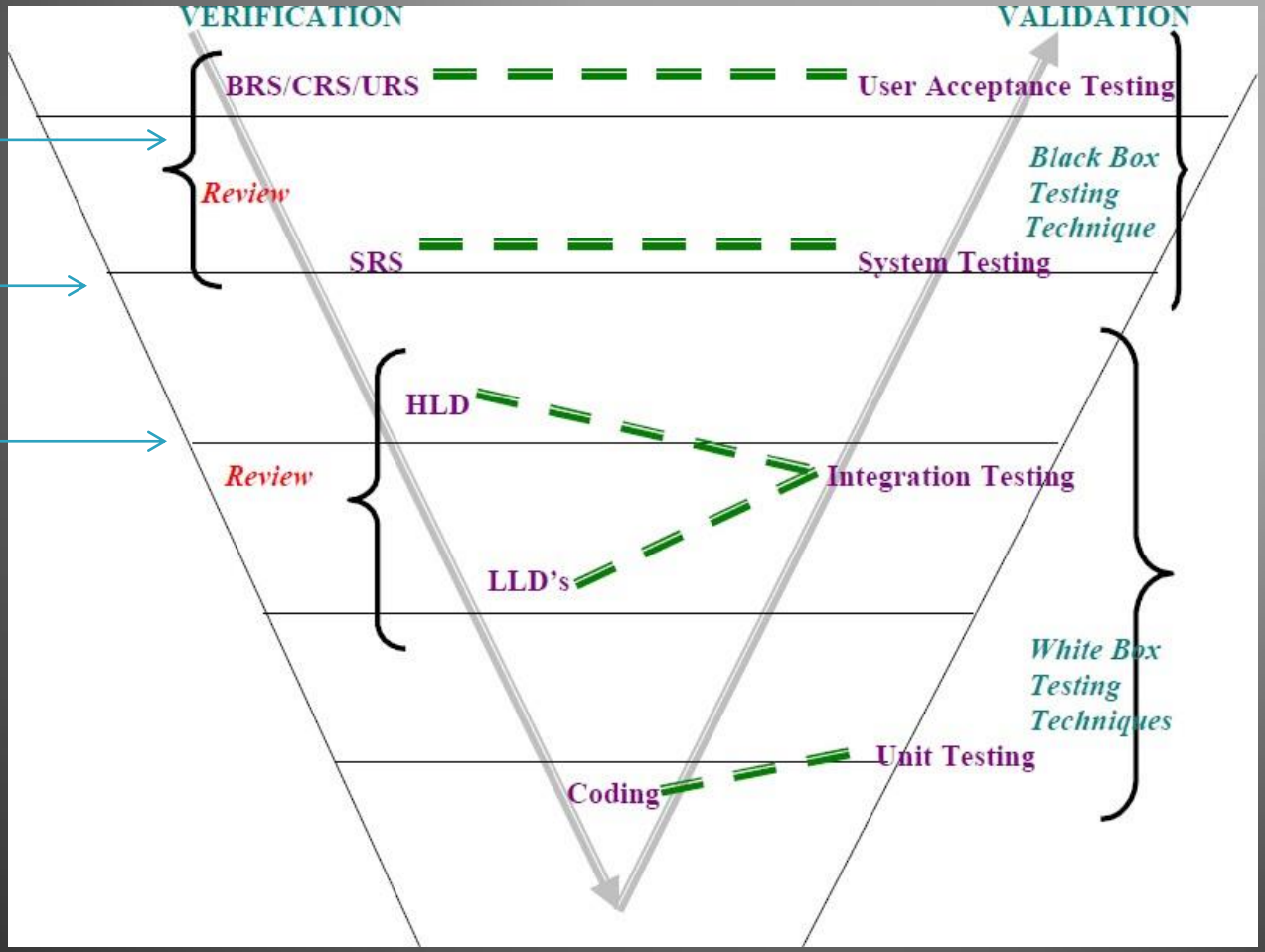
- Requirement changes are not allowed in between the cycle
- Every cycle of this model looks like waterfall model

V – Model

Business Unit

PM

Designers



Key Point for V Model

- In every phase we conduct the testing of Documents not software
- Only business people can understand BRS/CRS/URS because it's high level document
- **SRS -** Prepared for developer/ testers. It's a technical document prepared using diagram like ven diagram, dataflow , etc
- HLD: High level module
- LLD Low level Module

Cont…

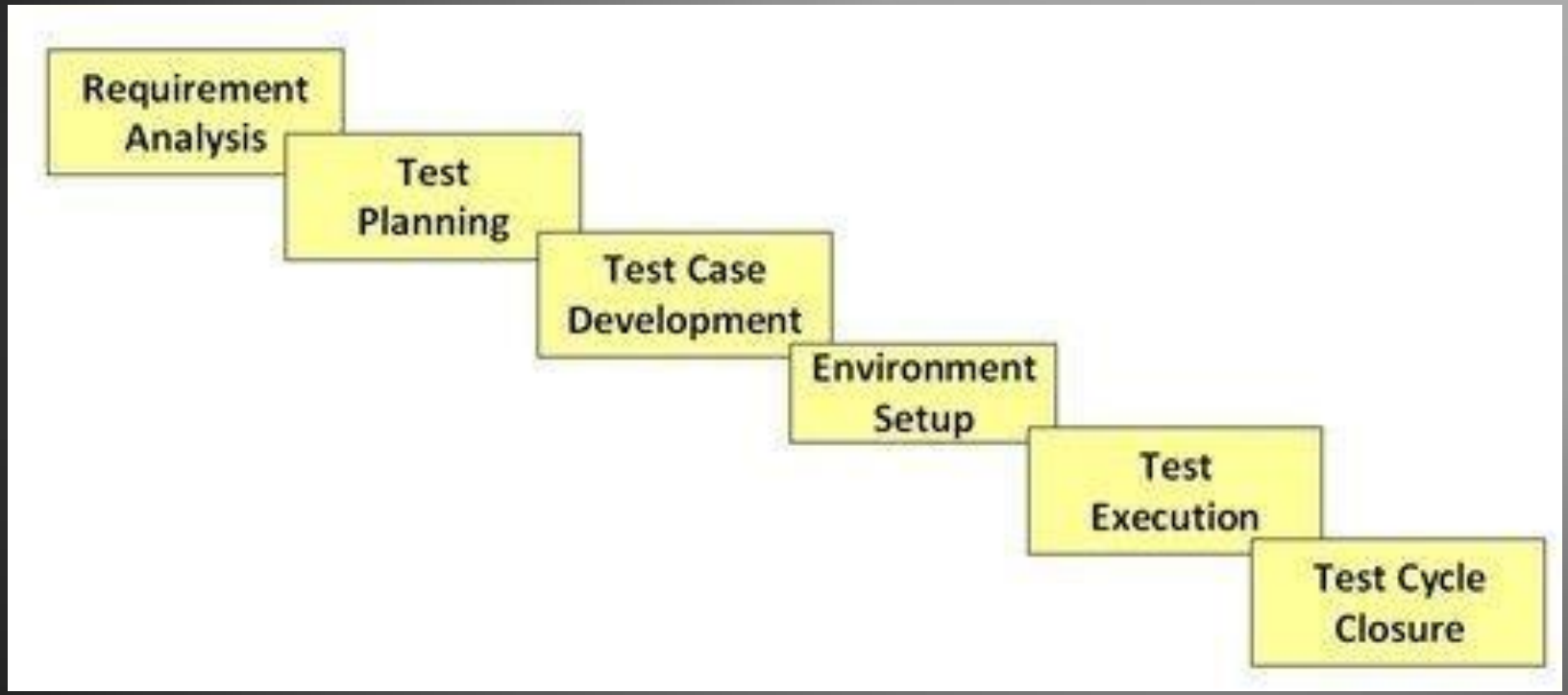
Advantages:

- Testing is involved in each and every phase

Disadvantage:

- Document is more
- Initial invest is more

STLC (Software Testing Life Cycle)



STLC

SNO	PHASE	Input	Activities	Responsibility	Out Come
1	**Test Planning**	Project Plan	➢Identify the Resources	Test Lead/Team Lead (70%)	Test Plan Document
	What to test	Functional Requirements	➢Team Formation	Test Manager (30%)	
	How to test		➢Test Estimation		
	when to test		➢Preparation of Test Plan		
			➢Reviews on Test Plan		
			➢Test Plan Sign-off		
2	**Test Designing**	Project Plan	➢Preparation of Test Scenarios	Test Lead/Team Lead(30%)	Test Cases Document
		Functional Requirements	➢Preparation of Test Cases	Test Engineers(70%)	Traceability Matrix
		Test Plan	➢Reviews on Test Cases		
		Design Docs	➢Traceability Matrix		
		Use cases	➢Test Cases Sign-off		
3	**Test Execution**	Functional Requirements	➢Executing Test cases	Test Lead/Team Lead(10%)	Status/Test Reports
		Test Plan	➢Preparation of Test Report/Test Log	Test Engineers (90%)	
		Test Cases	➢Identifying Defects		
		Build from Development Team			
4	**Defect Reporting & Tracking**	Test Cases	➢Preparation of Defect Report	Test Lead/Team Lead(10%)	Defect Report
		Test Reports/Test Log	➢Reporting Defects to Developers	Test Engineers (90%)	
5	**Test Closure/Sign-Off**	Test Reports	➢Analyzing Test Reports	Test Lead/Test Manger(70%)	**Test Summary Reports**
		Defect Reports	➢Analyzing Bug Reporting	Test Enginners(30%)	
			➢Evaluating Exit Criteria		

Requirement Traceability Matrix(RTM)

- RTM – RequirementTraceability Matrix
- Used for mapping of Requirements w.r.tTest cases

TEST CASE ID	REQUIREMENT ID
1	1.0
2	1.0
3	1.1
4	1.2
5	1.2
6	2.0