Hindustan

Institute of Technology & Science.

Department: Information Technology

SOFTWARE DESIGN AND MODELING ITB4302

ASSIGNMENT-1

Submitted To:

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18132023
IT-5A(General)/HITS

COMPARISON BETWEEN DIFFERENT TYPES OF SOFTWARE DEVELOPMENT LIFE CYCLE MODELS IN SOFTWARE ENGINEERING

Model Features	**Waterfall**	**V Shape**	**Prototype**	**Increment al**	**Spiral**	**RAD**
Requirement Specifications	Beginning	Beginning	Frequenti y changed	Beginning	Beginning	Time- box released
Understanding Requirements	Wel Understood	Easily understood	Not well understood	well understood	Wel understoo d	Easily underst ood
Cost	Low	expensive	High	low	expensive	low
Guarantee of Success	Low	High	Good	High	High	Good
Resource Control	Yes	Yes	No	Yes	Yes	Yes
Cost Control	Yes	Yes	No	No	Yes	Yes
Simplicity	Simple	Intermedia te	simple	Intermediat e	Intermedi ate	very simple
Risk Involvement	High	Low	low	Easily manage	Low	Very low
Expertise Required	High	medium	Medium	High	high	Medium
Changes Incorporated	Difficult	dfficult	Easy	Easy	Easy	Easy
Risk Analysis	Only at beginning	Yes	No risk analysis	No risk analysis	Yes	Low
User Involvement	Only at beginning	at the beginning	High	Intermediat e	High	Only at the beginn n
Overlapping Phases	No such phase	No	Yes	No	Yes	No

Flexibility	Rigid	Little flexible	Highly flexible	Less flexible	Flexible	High
Maintenance	Least glamorous	Least	Routine matatenance	Promotes maintainability	Typical	Easily maintai ned
Integrity & Security	vita	limited	Weak	Robust	High	Vital
Reusability	limited	To some Extent	Weak	Yes	Yes	some extent

Waterfall model phases

• The primary disadvantage of the waterfall model is the trouble of obliging change after the procedure is in progress. One stage must be finished before moving onto the next stage.

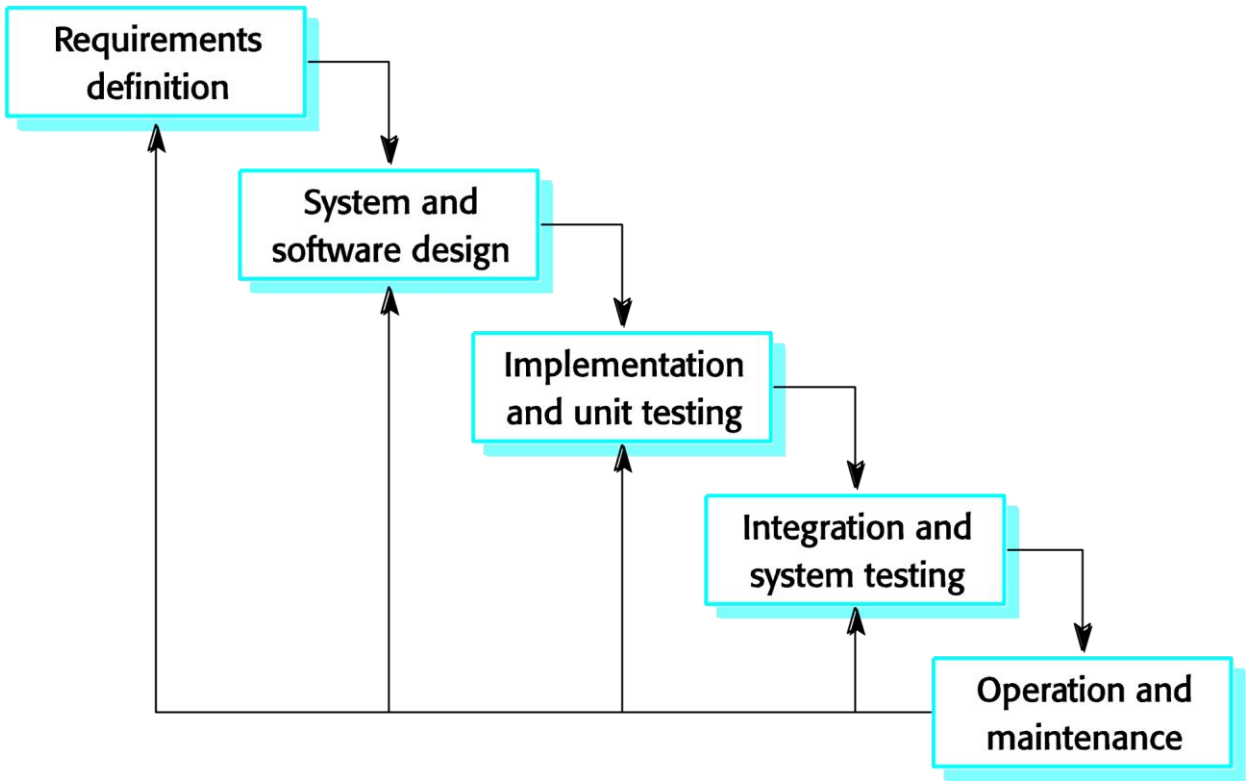
•Requirements examination and definition

• Integration and framework testing

• Operation and maintenance

• System and software design

Waterfall model



Waterfall model problems

- Inflexible partitioning of the project into distinct stages makes it difficult to respond to changing customer requirements.
- Consequently, this model is possibly fitting when the necessities are well understood and changes will be genuinely restricted during the plan procedure.
- Few business systems have stable requirements.

- The waterfall model is for the most part utilized for enormous frameworks building ventures where a framework is created at a few locales.

Evolutionary development

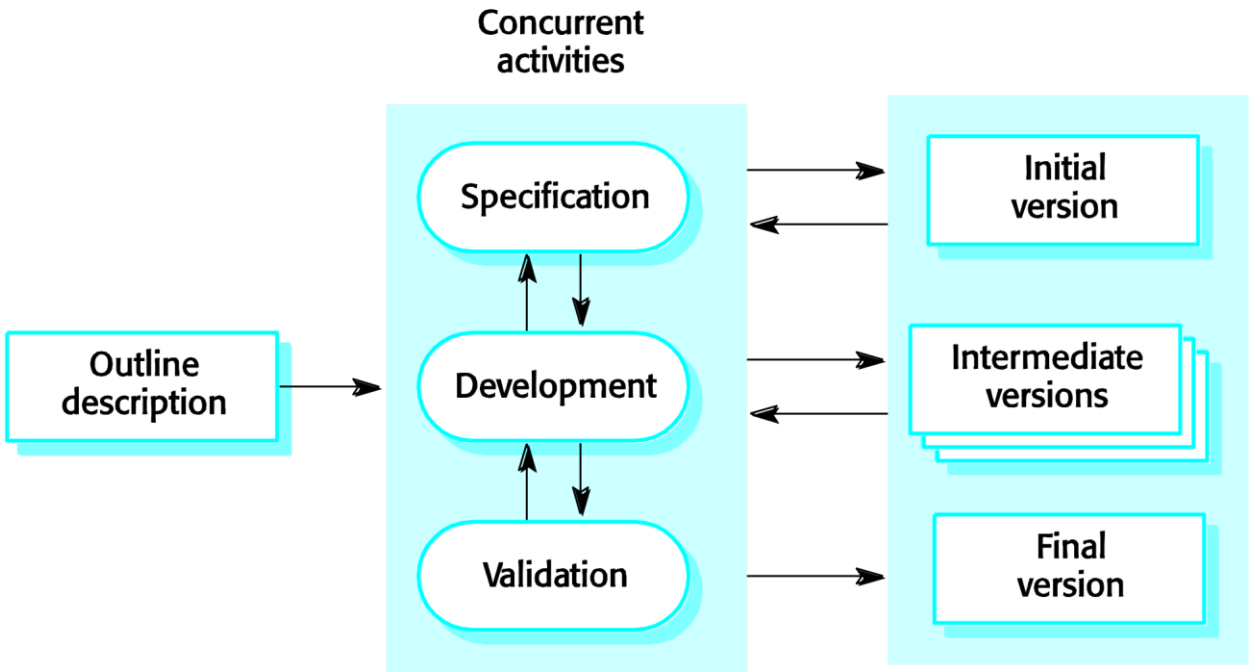
- Discard prototyping

Objective is to comprehend the framework prerequisites. Should begin with ineffectively comprehended prerequisites to explain what is truly required..

- Exploratory development

Objective is to work with clients and to advance a last framework from an underlying diagram determination. Should begin with surely knew prerequisites and include new highlights as proposed by the client. Throw-away prototyping

Evolutionary development



Evolutionary development

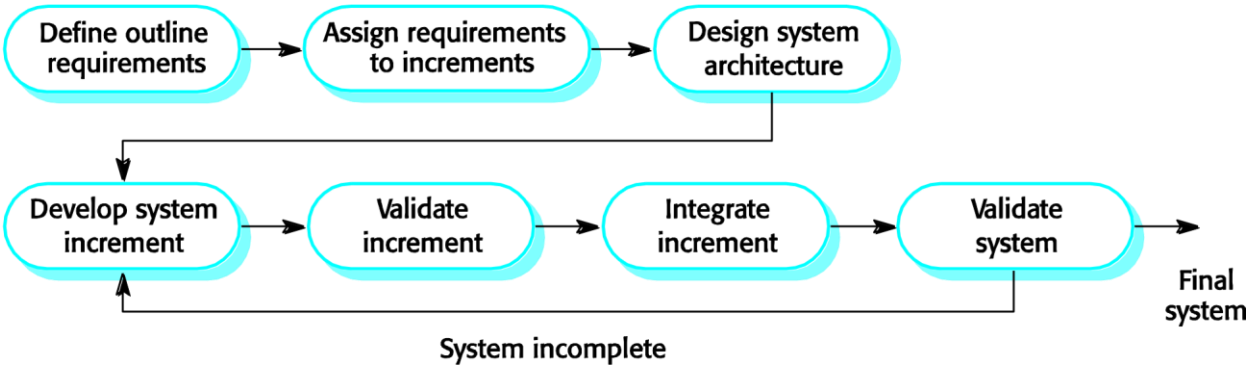
Lack of process visibility;

Problems

Special skills (e.g. in languages for rapid prototyping) may be required.
Systems are often poorly structured;

Applicability
For small or medium-size interactive systems;
For parts of large systems (e.g. the user interface);
For short-lifetime system

Incremental development



Incremental development advantages

- The highest priority system services tend to receive the most testing.

- Customer value can be delivered with each increment so system functionality is Available earlier.

- Early increments act as a prototype to help elicit requirements for later increments.

- Lower risk of overall project failure.

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Spiral development

- Each iteration in the spiral represents a phase in the procedure.

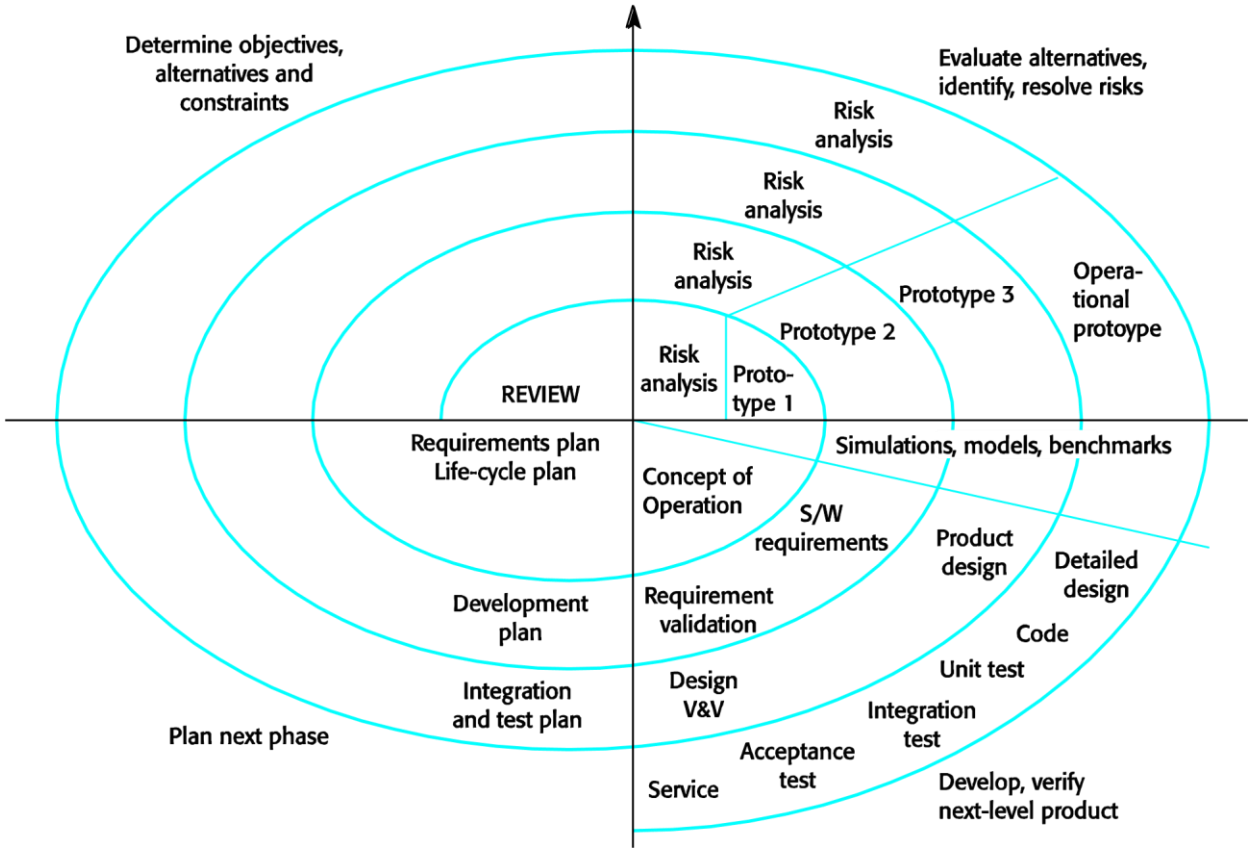
- Risks are explicitly assessed and resolved throughout the process

- Procedure is represented as a spiral rather than as a continuation of activities with backtracking.

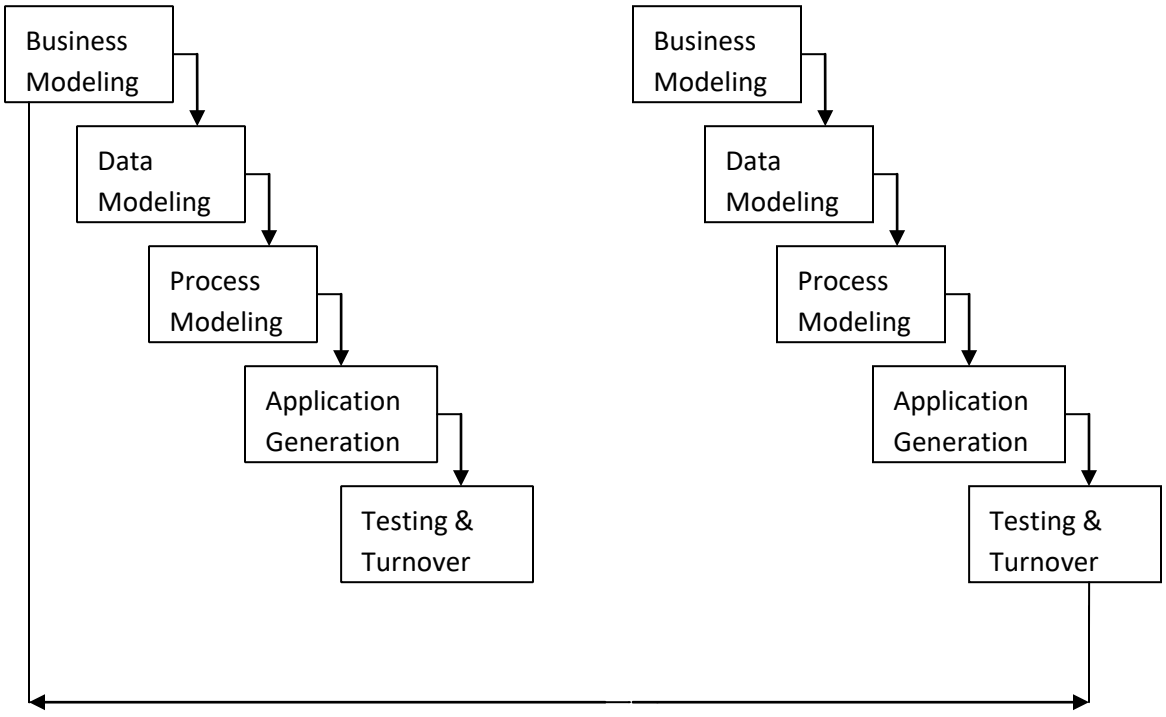
- No fixed phases such as specification or innovation - loops in the spiral are chosen depending on what is required.

- Procedure is represented as a spiral rather than as a continuation of activities with backtracking..

Spiral model of the software process



RAD MODEL:

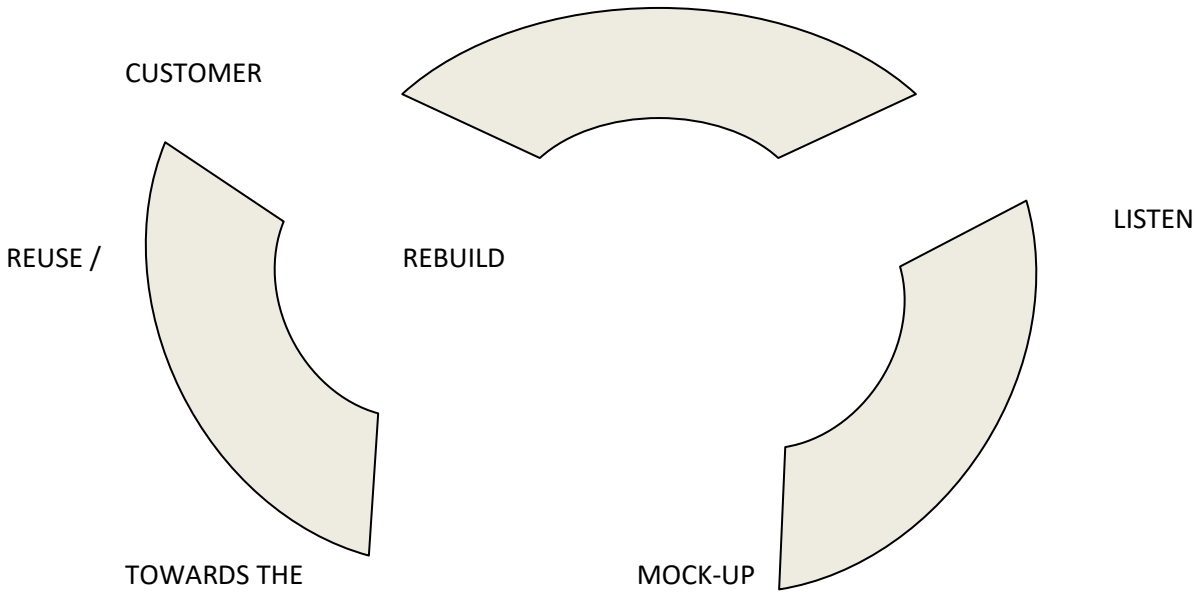


60 – 90 Days

PROTOTYPE MODEL:

It has 6 steps, They are as follows:

- Requirement collection
- Quick Design
- Prototype creation(or)modification
- Assessment
- Prototype refinement



CUSTOMER TEST

DRIVES MOCK - UP