

**ASSIGNMENT-I**

Submitted to :- Submitted By:-

Mr. Harvinder Singh Vaibhav

Branch-MI

Roll No.-17

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**Q.1) Comment on the statement “The Spiral model is considered to be a Meta Model”. Justify with proper explanation. How does the risk factor affect the spiral model of software development?**

Ans:- “The Spiral model is considered to be a Meta Model” because it includes some models of Software Development Life Cycle. It uses both waterfall and prototype models. Here we do software development systematically over the loops and at the same time developer make a prototype of it and show it to user after completion of various phase.  
  
Risk Analysis phase of Spiral Model analyze alternatives and attempt to identify and resolve the risk involved. This phase has been added especially in order to verify and resolve all the possible risks in the software project development. If risks indicate any type of uncertainty in needs, prototyping may be used to proceed further with the available data and finds out possible solution in order to deal with the potential changes in the requirements.

**Q.2) What is the advantage of using prototype software development model instead of waterfall model? Also explain the effect of defining a prototype on the overall cost of the software project?**

Ans:- In waterfall model the working software is not available late in the process, thus delaying the discovery of serious error.

The advantage of prototype model over the waterfall model is that in it we first make a prototype of the working model instead of developing a complete software.

After making prototype of the software, it is reviewed by the customer. This review gives the feedback to the customer that helps to remove uncertainty in the software requirement of software. So, the development of the prototype might involve extra cost, but overall cost might be lower than that of equivalent system developed.

**Q.3) What is SRS? Discuss the important issues that a SRS must address.**

Ans:- SRS stands for Software Requirement Specification. It is document that is written in natural language and contain all information that is required to build a software like customer requirement. It describes what the system will do without describing how it will be done. It acts as contract between customer and developer.

The issues that SRS document must address are: -

1. **Functionality: -** What function that the software is supposed to do.
2. **External Interface: -** How does the system will interact with the hardware and software.
3. **Performance: -** speed, availability, response time etc.
4. Attributes: - consideration for portability, correctness, security etc.
5. Design constraints imposed on an implementation.

**Q.4 Ans:- We use the RAD model in case where we require continuous involvement of the user.**

Ans:-

RAD MODEL :-

RAD stands for Rapid Application Development model. In RAD model process is stated with building a prototype. After making prototype user feedback is obtained and refined the prototype.

There are four phases in this model as shown in figure: -

With active participation of user

1. **Requirement planning:** -Requirement are gathered using any group elicitation technique like FAST, Brain Storming etc.
2. **User description: -** Teams of developers and users are constituted to prepare, understand and review the requirement.
3. **Construction phase: -** This phase combines the detail design and testing phase of phase of waterfall model. Here, we release the product to customer.
4. **Cutover Phase: -** This phase incorporates acceptance testing by users, installation of the system and user training.

Pros and cons RAD model:-

PROS:-

1. The development time of the software and overall cost is reduced.
2. It may use CASE tools to increase productivity.
3. Involvement of user may increase the acceptability of product.

CONS;-

1. Development time may not be reduced very significantly, if reusable components are not available.
2. If the system can’t be properly modularised then it will not effective.