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**1. Discuss the prototyping model. What is the effect of**

**designing a prototype on the overall cost of the**

**project?**

Ans = The prototyping model is a systems development method in which a prototype is built, tested and then reworked as necessary until an acceptable outcome is achieved from which the complete system or product can be developed.

Prototyping may have some initial costs of developing, but it reduces the overall budget by helping your product to be free of the errors or glitches that could have occurred if the idea was made from scratch without any prior user testing. Furthermore, prototyping also helps to understand the intrinsic flaws, shortcomings and drawbacks that can be improved during the product development process. If the prototyping process is ignored completely, it might result in the restructuring and redesigning of the entire product after spending all your resources on its development. So, the effect of designing a prototype on the overall cost of a software project is to actually reduce the additional costs of restructuring and reframing it after its full-fledged development- which might cost a fortune.

**2. Compare iterative enhancement model and**

**evolutionary process model.**

Ans = Iterative Enhancement Model: This model has the similar phases as the waterfall model, but with fewer restrictions. In general the phases occur in the same order as in the waterfall model but these may be conducted in several cycles. A utilizable product is released at the end of the each cycle with each release providing additional functionality.

Diagram

Description automatically generated

Evolutionary Development Model: Evolutionary development model bear a resemblance to iterative enhancement model. The similar phases as defined for the waterfall model occur here in a cyclical fashion. This model is different from iterative enhancement model in the sense that this doesn't require a useable product at the end of each cycle. In evolutionary development requirements are implemented by category rather than by priority.

**3. As we move outward along with process flow path of**

**the spiral model, what can we say about software**

**that is being developed or maintained.**

Ans = The product advances to a more complete state as work spirals outward, and the **level of abstraction at which work is conducted decreases** (i.e., implementation specific work accelerates as we move further from the origin).

**Explanation:**

One of the most significant models for the **Software Development Life**Cycle that supports **risk handling** is the**spiral model**.

In diagrammatic form, it resembles a **spiral with several loops**. The spiral's precise number of loops is unclear and varies from project to project. A phase of the software development process is referred to as each **spiral loop.**

The project manager might alter the precise number of phases required to build the product depending on the project's risks. The project manager plays a crucial role in the spiral model of product development since they dynamically set the number of phases.

The **waterfall model's** methodical, managed elements are combined with the idea of iterative development in the**spiral model.** Iterative and sequential linear development models, or the waterfall model, are combined to create the spiral model, which places a strong emphasis on risk analysis.

**4. Explain the Scrum Agile methodology.**

Ans = Agile scrum methodology is a project management system that relies on incremental development. Each iteration consists of two- to four-week sprints, where the goal of each sprint is to build the most important features first and come out with a potentially deliverable product.

Scrum methodology - Scrum methodology is based on a set of very defined practices and roles that must be involved during the software development process. It is a flexible methodology that rewards the application of the 12 agile principles in a context agreed by all the team members of the product.

Agile methodology - The Agile methodology is a way to manage a project by breaking it up into several phases. It involves constant collaboration with stakeholders and continuous improvement at every stage. Once the work begins, teams cycle through a process of planning, executing, and evaluating.

**5. Explain the utility of Kanban CFD reports.**

**Ans =**