ASSINGMENT-01

SDLC MODEL

Q-1 DISSCUSS THE PROTOTYPE MODEL.WHAT IS THE EFFECT OF DESSING A PROTOTYPE ON THE OVERALLCOST OF THE PROJECT?

ANS-:The prototyping model is a systems development method in which a [prototype](https://www.techtarget.com/searcherp/definition/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. This model works best in scenarios where not all of the project requirements are known in detail ahead of time. It is an iterative, trial-and-error process that takes place between the developers and the users.

THE EFFECT OF DESSING A PROTOTYPE ON THE OVERALLCOST OF THE PROJECT

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

Q-2. Compare iterative enhancement model and

evolutionary process model.

ANS-: Iterative model

 this Model, you can start with some of the software specifications and develop the first version of the software. After the first version if there is a need to change the software, then a new version of the software is created with a new iteration. Every release of the Iterative Model finishes in an exact and fixed period that is called iteration.

The Iterative Model allows the accessing earlier phases, in which the variations made respectively. The final output of the project renewed at the end of the Software Development Life Cycle (SDLC) process.

Evolutionary process model

**Evolutionary model** is a combination of [Iterative](https://www.geeksforgeeks.org/software-engineering-iterative-waterfall-model/)and [Incremental model](https://www.geeksforgeeks.org/software-engineering-incremental-process-model/) of software development life cycle. Delivering your system in a big bang release, delivering it in incremental process over time is the action done in this model. Some initial requirements and architecture envisioning need to be done. It is better for software products that have their feature sets redefined during development because of user feedback and other factors. The Evolutionary development model divides the development cycle into smaller, incremental waterfall models in which users are able to get access to the product at the end of each cycle. Feedback is provided by the users on the product for the planning stage of the next cycle and the development team responds, often by changing the product, plan or process. Therefore, the software product evolves with time. All the models have the disadvantage that the duration of time from start of the project to the delivery time of a solution is very high. Evolutionary model solves this problem in a different approach.

Q-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 spiral model is an SDLC model that combines elements of an iterative software development model with a waterfall model. It is advisable to use this model for expensive, large and complex projects.

The most important feature of the model is that once the project starts, it has the ability to manage unknown risks. Let’s go through the different phases of the Spiral model first and after that, we would be able to see how risk is handled in this model.

**spiral Model Phases**

It has four stages or phases: The planning of objectives, risk analysis, engineering or development, and finally review. A project passes through all these stages repeatedly and the phases are known as a Spiral in the model.

1. **Determine objectives and find alternate solutions –** This phase includes requirement gathering and analysis. Based on the requirements, objectives are defined and different alternate solutions are proposed.
2. **Risk Analysis and resolving –**In this quadrant, all the proposed solutions are analyzed and any potential risk is identified, analyzed, and resolved.
3. **Develop and test:** This phase includes the actual implementation of the different features. All the implemented features are then verified with thorough testing.
4. **Review and planning of the next phase –**In this phase,the software is evaluated by the customer. It also includes risk identification and monitoring like cost overrun or schedule slippage and after that planning of the next phase is started.

when software that is being developed or maintained

SOFTWARE DEVLOPMENT

Software development is the process programmers use to build computer programs. The process, also known as the Software Development Life Cycle (SDLC), includes several phases that provide a method for building products that meet technical specifications and user requirements.

Software Maintenance

Software maintenance refers to the process of modifying and updating a software system after it has been delivered to the customer. This can include fixing bugs, adding new features, improving performance, or updating the software to work with new hardware or software systems.

The goal of software maintenance is to keep the software system working correctly, efficiently, and securely, and to ensure that it continues to meet the needs of the users.

Q-4. Explain the Scrum Agile methodology.

ANS-: Scrum is precisely an evolution of Agile Management. Scrum methodology is based on a set of very defined practices and roles that must be involved during the software development process. , which is the term for feedback and reflection. Each Sprint is an entity in itself, that is, it provides a complete result, a variation of the final product that must be able to be delivered to the client with the least possible effort when requested. The process has as a starting point, a list of objectives/ requirements that makup the project plan. It is the client of the project that prioritizes these objectives considering a balance of the value and the cost thereof, that is how the iterations and consequent deliveries are determined. On the one hand the market demands quality, fast delivery at lower costs, for which a company must be very agile and flexible in the development of products, to achieve short development cycles that can meet the demand of customers without undermining the quality of the result. It is a very easy methodology to implement and very popular for the quick results it gets. Scrum methodology is used mainly for software development, but other sectors are also taking advantage of its benefits by implementing this methodology in their organizational models such as sales, marketing, & HR teams etc

Q-5. Explain the utility of Kanban CFD reports.

One of the common reasons why teams use [Kanban](https://kanbanzone.com/kanban-resources/what-is-kanban/) is to visualize their workflow. Through a [Kanban board](https://kanbanzone.com/kanban-resources/what-kanban-board/), teams can track their progress and spot any bottlenecks in their system. But did you know that other Kanban tools provide insights about your team’s work? One of these tools is called the Cumulative Flow Diagram or a **CFD chart**.

CFD charts are a powerful tool that Kanban teams can use to measure flow and analyze trends about a team’s performance. Think of a CFD chart as a storyteller. It paints a picture of how workflows through your Kanban system within a period. With this information handy, teams can diagnose problems and improve their process to create a more stable and predictable flow.