ASSIGNMENT ON SDLC MODEL

**1. Discuss the prototyping model. What is the effect of designing a prototype on the overall cost of the project?**

Ans:

Prototyping basically means to practically implement the findings of a discovery phase in design development. It means to develop a model or a dummy website for a product that is partially functional and gives a great tangible idea of how the product will look and feel after its development.

 Prototyping helps a user to–

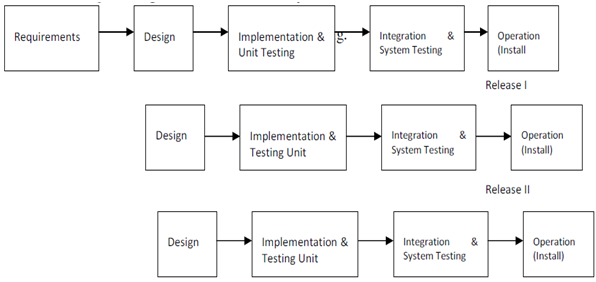
* **Shaping your ideas**– Prototyping helps in improving the creative process by starting with the idea and iterating that idea over and over until it satisfies your needs.
* **Communicate your ideas for meeting the client’s business objectives**– It helps to communicate the idea if it does not exactly meet the client’s business objectives, and you can avoid the complete restructuring of the developed product by just revising the product prototype.
* **Coming up with solutions quickly**– You and your team can easily collaborate and use the cloud space for designing the prototype together and leave comments and suggestions for fixing the loopholes in the prototype.
* **Building a bridge between the designers and customers**– Prototypes help the designers to understand the customer’s tastes and preferences, according to which they slowly realize which product can lure which customer, and improve communication between them.
  + - **effect of designing a prototype on the overall cost 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. 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.



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:

As work moves outward on the spiral , the product moves toward a more complete state and the level of abstraction at which work is performed is reduced(i.e., implementation specific work accelerates as we move further from the origin).

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

Ans:

Agile scrum methodology is the combination of the agile philosophy and the scrum framework. Agile means "incremental, allowing teams to develop projects in small increments. Scrum is one of the many types of agile methodology, known for breaking projects down into sizable chunks called "sprints." Agile scrum methodology is good for businesses that need to finish specific projects quickly.

Agile scrum methodology is a [project management system](https://www.businessnewsdaily.com/9977-best-online-project-management-software.html) 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. More features are built into the product in subsequent sprints and are adjusted based on stakeholder and customer feedback between sprints.

Whereas other project management methods emphasize building an entire product in one operation from start to finish, agile scrum methodology focuses on delivering several iterations of a product to provide stakeholders with the highest business value in the least amount of time.

Agile scrum methodology has several benefits. First, it encourages products to be built faster, since each [set of goals](https://www.businessnewsdaily.com/11225-set-achievable-business-goals.html) must be completed within each sprint's time frame. It also requires frequent planning and goal setting, which helps the scrum team focus on the current sprint's objectives and increase productivity.

* Agile scrum methodology consists of two sets of roles: core roles, known as "pigs," and ancillary roles, known as "chickens."

There are three core roles: scrum master, product owner and scrum team. All of these people are committed to the scrum project.

1. **Scrum master:** The scrum master is the facilitator of the scrum development process. In addition to holding daily meetings with the scrum team, the scrum master makes certain that scrum rules are being enforced and applied as intended. The scrum master's responsibilities also include coaching and [motivating the team](https://www.businessnewsdaily.com/4782-how-to-motivate-workers.html), removing impediments to sprints, and ensuring that the team has the best possible conditions to meet its goals and produce deliverable products.
2. **Product owner:** The product owner represents stakeholders, who are typically customers. To ensure the scrum team is always delivering value to stakeholders and the business, the product owner determines product expectations, records changes to the product and administers a scrum backlog, a detailed and constantly updated to-do list for the scrum project. The product owner is also responsible for prioritizing goals for each sprint, based on their value to stakeholders, such that the most important and deliverable features are built in each iteration.
3. **Scrum team:**The scrum team is a self-organized group of three to nine individuals who have the business, design, analytical and development skills to carry out the actual work, solve problems and produce deliverable products. Members of the scrum team self-administer tasks and are jointly responsible for meeting each sprint's goals.

Ancillary roles, on the other hand, are other stakeholders who are involved in, but not committed to, the scrum project. Typically, ancillary roles consist of customers, management and members of the executive team who are involved for the purpose of consulting, reporting progress and gathering feedback to better work toward delivering the highest value possible.

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

The cumulative flow diagram is one of the most advanced analytics in Agile project management.

* It provides a concise visualization of the metrics of flow.
* It shows you how stable your flow is and helps you understand where to focus on making your process more predictable.
* Gives you quantitative and qualitative insight into both past and existing problems.

In the Kanban methodology, [Kanban boards](https://www.workfront.com/project-management/methodologies/kanban/kanban-board) are used to divide the workflow of a given project into three columns: “To Do” tasks, tasks that are “Work in Progress” (WIP), and tasks that are “Done.” Cumulative flow diagrams collect every task that has gone through your workflow to visualize three critical metrics:

* **Cycle time:**This is the total time it takes your team to complete each task from the beginning to the end. One of the benefits of CFDs is that you can see where you can optimize your workflow to reduce cycle times.
* [Work in progress](https://www.workfront.com/project-management/methodologies/kanban/wip-limits)**:** This is the number of tasks your team is actively handling at a certain time. Cumulative flow diagrams will visualize inefficiencies in your [project timeline](https://www.workfront.com/project-management/knowledge-areas/time-management/project-timeline) when your team has too much or too little work in progress at any given point.
* [Throughput](https://www.workfront.com/project-management/methodologies/kanban/throughput)**:**This is the number of tasks your team can complete over a given period. As this is the ultimate measure of your team’s productivity, cumulative flow diagrams should show where you can align your efforts and resources so that throughput increases over time.
* When done correctly, we should easily identify from our cumulative flow diagram the stability of our workflow and any problem areas to address. Correct analysis and monitoring of our cumulative flow diagram will tell us which areas need a attention to maintain continuous process improvement. As such, cumulative flow diagrams provide a the tools to improve the overall productivity and efficiency of a team and our projects.