**Software Engineering**

Assignment No 1

**Assignment Submission Date: 4th July 2020**

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Q#1: Provide an example of a software project that would be amenable to the following models. Be specific.

1. Waterfall
2. Prototype
3. Extreme Programming

**Ans 1:**

**Water fall method**

**Inventory Management System** **(IMS)** can be made by waterfall method. By this model, requirements are gathered from the start so there is no need to change the requirements after some stage and everything works accordingly with this model. Basically in IMS the clients wants the developer to make such application where complete record of its inventories can be stored `, there is a complete track of each and every product which is either sold or bought , so , requirements are clear and with proper planning waterfall model is suitable to design and develop this system

**Prototype Model**

**Photo-editor** can be made via prototype model. This application works perfectly with prototype model because in this application building , there is a need for end to end communication between the client and developer because every time when the application is tested by the client there might be change in the functionality want by the client or to add more features in this application for e.g.: new filters , changing cropping style , and many more. That’s how prototyping will work with this application.

**Extreme Programming**

**Development of an Image Processing Environment (IMPRO),** the project is achieved viaextreme programming method. The features of the model played an important part in making this project. Pair programming is described as two programmers working side-by-side, collaborating on the same design, algorithm, code or test. During the development process, the team came together 2 or 3 times a week to discuss what had been done and how the project was progressing with our adviser. By coding in pair, we had complete command of the development process; what had been developed and for what. And at the end, Result is Almost 100% bug free, functioning software delivered on time

**Q#2: Why spiral model is known as risk driven process model. Justify this statement. And Is it possible to combine process models? If so, provide an example.**

**Ans 2:**

Spiral model is one of the most **Spiral models** is one of the most important Software Development Life cycle models, which provides support for **Risk Handling. It works in loops and exact no. of loops is not known** and it can vary from project to project. Most important feature of this model is to mitigate risks at every phase of the software development process. This model deals from medium to high risk project where risk evolution is important

- Waterfall inside evolutionary (waterboard shuttle software)

- Evolutionary inside waterfall (GUI prototyping)

**Q#3: Describe a process framework in your own words. When we say that framework activities are applicable to all projects, does this mean that the same work tasks are applied for all projects, regardless of size and complexity? Explain.**

**Ans 3:**

**Process Framework**

A process framework establishes the foundation for a complete software engineering process. It provides the general principles for a process. It is the core if you will. A process implements the process framework, but it can have other tailored, unique or company specific components. It establishes a skeleton for project planning, which is adapted by allocating a task set that is appropriate to the project

**(When we say that framework activities are applicable to all projects?)**

Basically, process framework seemed as a target that for task completion and they are considered so that the product formed would be well assured and it would be a high-end quality product. Generally, they are considered as a tactics which set guidelines for a how a task would be structured and developed. From this scenario we can say that process frame work is applicable to any task regardless of complexity and size

**Q#4: Umbrella activities occur throughout the software process. Do you think they are applied evenly across the process, or are some concentrated in one or more framework activities?**

**Ans 4:**

Software engineering process framework activities are complemented by a number of umbrella activities. They are applied throughout a software project and help a software team manage and control progress, quality, change and risk, they are applied evenly across the process. because it is required by the software development team to make quality assured software. Hence not necessary all the aspects and stage of umbrella activities are there in developing of the software project but it depends on thy type of the project one is making

**Q#5: To reduce costs and the environmental impact of commuting, your company decides to close a number of offices and to provide support for staff to work from home. However, the senior management who introduce the policy are unaware that software is developed using agile methods, which rely on close team working and pair programming. Discuss the difficulties that this new policy might cause and how you might get around these problems.**

**Ans 5:**

Awareness and education are the most important thing in the practical life. However, those are lacking will face the difficulty. So the policy made by the senior management will be difficult for those who are not aware of the modern software development method i.e.: Agile method. As we know, in this model team are bound together and work is carried out with the understanding between the team members which is due to strong communication. Since everyone has to work from home so there will be a lack of communication between members. In order to overcome, there must be a session to be held online so that everyone will come altogether and can discuss their queries. With idea of pair programming, there should be a repository be set on GitHub so that everyone will share their code and it will be easy to find bugs and make the code error free. These steps will surely help the senior management

Assignment guidelines

1. Use your own perception to answer, and use your own words, don’t copy directly from any website.
2. Every page of your assignment should have your student I.D in header
3. Follow the given formatting style

* Font style: Times New Roman
* Font size: 12
* Heading size: 14
* Alignment: Justified
* Line Spacing 1.5