IT-314 LAB-1

Task - Choosing Software Process Model

202101248 - Raj Saradava

1. A simple data processing project.

Waterfall Model; because the requirements are defined from the start, this model helps in the creation and sequencing of activities in an organized way, resulting in improved quality control.

2. A data entry system for office staff who have never used computers before. The user interface and user-friendliness are extremely important.

Prototyping model - Since the staff is new to the system and the user interface and friendliness are important, it would be beneficial to construct a working prototype first. The product could then be improved while being customized according to the needs.

3. A spreadsheet system that has some basic features and many other desirable features that use these basic features.

Waterfall and Incremental model - The basic predefined features of the spreadsheet can be achieved through the waterfall model, and other desirable features can be added through evolutionary prototyping.

4. A web-based system for a new business where requirements are changing fast and where an in-house development team is available for all aspects of the project.

Spiral incremental method; since requirements are changing rapidly, it will be better to change the product according to the requirements. Additionally, leveraging Agile XP Programming Model with pair programming can expedite the development and testing of code, thanks to the in-house development team.

5. A website for an online store that has a long list of desired features it wants to add, and it wants a new release with new features to be done very frequently.

Incremental and Prototyping Model- An online store website would have good user interaction and need a good user interface which requires a prototyping model. A quick need for new features demands an incremental model. Thus a hybrid of both will work.

6. A system to control anti-lock braking in a car.

Waterfall Model - Anti-lock braking is a safety feature and is a critical component in a car. Requirements are clear, but a perfect design and analysis are needed beforehand, as any flaw in the system couldn't be tolerated.

7. A virtual reality system to support software maintenance.

Incremental Model with Evolutionary Prototype; because the needs are unclear, they may change over time. Additionally, the user interface will be essential for getting a better outcome because this is a brand-new idea development.

8. A university accounting system that replaces an existing system.

Waterfall Model; Since we are replacing the current system, the majority of the needs are known, and just a small number of extra features or modifications to the initial model will get us to the finished result.

9. An interactive system that allows railway passengers to find train times from terminals installed in stations.

Evolutionary Prototype – Incremental Model; Using the incremental model will allow us to add new features and requirements at each level because the idea is extremely clear and for an interactive system. Additionally, the evolutionary prototype will enhance the user interface and make it more user-friendly.

10. Company has asked you to develop software for a missile guidance system that can identify a target accurately.

Waterfall Model - As the requirements are clearly defined, waterfall model is best suited.

11. When emergency changes have to be made to systems, the system software may have to be modified before changes to the requirements have been approved. Choose a process model for making these modifications that ensure that the requirements documents and the system implementation do not become inconsistent.

Incremental model - This model fits best as per the requirements stated.

12. Software for ECG machines.

Waterfall model, as the risk is too great and the criteria are simple. In medical procedures, a methodical approach with appropriate analysis and documentation is crucial.

13. A small scale well-understood project (no changes in requirement will be there once decided).

Waterfall Model; every stage will be straightforward because the demands are clear and we won't allow modifying the choice in the future. This paradigm guarantees a planned and well-structured development process.