

Software Engineering

Lab 1:

Choosing Software Process Models

Group:- 5

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a) A simple data processing project

Model: Waterfall Model

Reason: The Waterfall model is suitable for well-understood problems with minimal or no changes in the requirements, and here the problem is well-defined, and minimal or nil changes will be required.

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


Model: Prototyping (Evolutionary Prototyping)

Reason: The prototyping model is best suitable for a project where UI is very important. The Evolutionary Prototyping variant is more suitable as it permits improvements to the prototype.

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

Model: Spiral Model

Reason: The Spiral model is ideal when there is a need to manage risks, especially for projects with evolving requirements.



d) 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

Model: Agile Software Development

Reason: Agile is well-suited for projects with rapidly changing requirements and a team that is actively involved in all aspects of development.

e) A website for an online store which 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.


Model: Agile Software Development

Reason: For a website with a long list of desired features and frequent releases, the Agile model is the most appropriate choice.

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

Model: Waterfall Model

Reason: In the waterfall model, for the proper functioning of the anti-lock braking system of the car, the analysis and design requirements must be scheduled without any flaws before the system implementation.



g) A virtual reality system to support software maintenance

Model: Incremental model

Reason: The system requirements keep changing, so they cannot be predicted from early. Therefore, the Incremental model is best in this case.

h) A university accounting system that replaces an existing system


Model: Waterfall Model

Reason: The requirements are specific.

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

Model: Agile Software Development

Reason: For an interactive system with a need for continuous feedback to user needs, the Agile model would be appropriate.



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

Model: Spiral software development

Reason: For high-advance systems like a missile guidance system, Spiral software is best to use, which analyzes and tries to reduce risk.

k) A simple data processing project, 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 ensures that the requirements documents and the system implementation do not become inconsistent.

Model: Agile Software Development

Reason: In situations where emergency changes arise and the requirements are evolving, the Agile model is appropriate.



l) Software for an ECG machine.

Model: Waterfall Model

Reason: Requirements are specific, and waterfall is best for that.

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

Model: Waterfall Model

Reason: Requirements are specific, and waterfall is best for that.