

IT314 – SOFTWARE ENGINEERING

LAB 01 : CHOOSING SOFTWARE PROCESS MODEL

202101160 – Krupesh Parmar

1) A simple data processing project

- Waterfall Model, as this is a simple Model
- All the requirement will be provided in advance, so there will be minimum or no changes at all.

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

- Prototyping Model, as UI is very important.
- Prototyping Model is useful with less experienced team.
- It is suitable for novice users.

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

- Incremental – Waterfall Model
- System has some predefined features, which can be implemented using waterfall model, and there are some other features which uses these predefined features, which can be implemented using Incremental Model.

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 aspect of the project.

- Spiral – Incremental Model
- Here requirements are changing fast, so the Incremental Model is useful.
- Because requirements are changing fast, new functionality can be added with every iteration by measuring risk and specific experiment, that's why Spiral Model is useful to measure and solve these risks in every iteration.

5) A web-site for an on-line 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.

- Incremental and Prototyping Model

- As this is an on-line store, a good UI is always beneficial, which can be achieved using prototyping Model.
- Adding new features very frequently can be achieved using Incremental Model.

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

- Spiral – Incremental Model
- As this is a big project with focus on user's safety. There are many risk's related to this project, which needs to be eliminated and need to add some new features or improve the features, which can be achieved using Spiral Model.

7) A virtual reality system to support software maintenance.

- Incremental Model / Prototype Model
- The system requirements could be unclear at first, and all they keep changing and it can't be presumed before implementing it, which can be achieved with Incremental or Prototype Model.

8) A university accounting system that replaces existing system

- Waterfall Model
- Because of the existing system, features can be predicted and the requirements are stable and reusable, which can be achieved using Waterfall Model.

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

- Agile Software Development Model
- The user requirements can change and it is important to complete the project as soon as possible, Agile Software Development Model can be useful.

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

- Waterfall Model
- It is a government project, which has pre-determined requirements, so the Waterfall Model can be useful.

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 ensures that the requirements documents and the system implementation do not become inconsistent.

- Incremental Model
- As the emergency changes have to be made to the systems, it has to be modified before requirements have been approved. This requirement can be achieved using the Incremental model.

12) Software for ECG machine.

- Waterfall Model
- The requirements are already pre-determined and analysis and design must not have any flaws Waterfall Model can be useful.

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

- Waterfall Model
- As all requirements are determined and there will be no changes in the future, Waterfall Model will be most suitable.