IT314 Software Engineering

Lab 1: Choosing Software Process Models

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1) A simple data processing project.

→Model that can be used : **Waterfall Model**

→Reasoning : Because here as it is mentioned that it is a simple data processing project so It will be having certain basis operations or features which we will be implementing which will be known to us before starting the project and there would not be any major changes to the project while progressing further.

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

→ Model that can be used : **Prototyping Model**

→Reasoning : Here as it already mentioned beforehand that the people who will be using this software are not much used to with the computers , so we have to make a user friendly software which is really easy to operate . So, we have to focus much on the UI part as it will be for the novice users which can be achieved by Prototyping Model.

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

→Model that can be used : **Evolutionary Prototyping Model**

→Reasoning : Because we can make/implement some basic features of the spreadsheet system and then according to the requests made by the client we can add/build those newly asked features using the underlying structure (which will be our basic features).

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.

→Model that can be used : **Spiral Incremental Model**

→Reasoning : Because here the requirements are changing very fast and as it is a new business it cannot afford the breaking of the software, and also here the risk management of each and every step of the project is very much crucial .

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.

→Model that can be used : **Agile Scrum**

→Reasoning : Because here first we will be implementing the basic features which are needed for the software and then after every sprint review session we will be go on adding new features to it . Here we have used the word sprint review because everything will be done in a very short duration of time.

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

→ Model that can be used : **Waterfall Model**

→Reasoning : Because the features/requirements that will be needed for this software are very clear and as it will not be changing over the time.

7) A virtual reality system to support software maintenance

→ Model that can be used : **Spiral Incremental Model**

→Reasoning : Because a the technology grows/ goes on changing , we have to implement/add a lot of new features to it.

8) A university accounting system that replaces an existing system

→ Model that can be used : **Waterfall Model**

→Reasoning : Because here every feature that will be needed to make this software is known to us beforehand and it will not change over time that's why I have suggested Waterfall model.

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

→ Model that can be used : **Prototyping Model**

→Reasoning : Here as the basic set of features can be implemented by us but then we have to add some additional features to it as it will be searching for a specific train based on some criteria's provided to it.

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

→ Model that can be used : **Spiral Model**

→Reasoning : Because here the system has to be very accurate , so we have to be very efficient and have to analyze it many times.

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.

→Model that can be used : **Spiral Model**

→Reasoning : Because here we have to be very careful and to evaluate every risk factors, so that we can keep the data/documentation consistent after every iteration.

12) Software for ECG machine.

→Model that can be used : **Waterfall Model**

→Reasoning : Here the basic set of features are known to us beforehand and will not be changing over time.

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

→Model that can be used : Waterfall Model

→Reasoning : Here as there are no changes in requirements and all the set of features are known to us beforehand.