IT-314 SOFTWARE ENGINEERING

Name :- Swet Lakhani

Student ID :- 202101218

Lab Group :- 03

LAB :- 01 Choosing Software Process Models

Professor :- Saurabh Tiwari

A) A simple data processing project.

In this Project, we can use **Waterfall Model** as the Requirements for this project are easy to analyze and there are very less or no chances of changes. So, this project can easily be carried out using Waterfall model.

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

In this Project, we can use **Prototyping Model** as here prototype of the system can be developed earlier and presented to users who have never used computers before. This allows the office staff to interact with the system, provide feedback, and suggest improvements before the complete system is developed.

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

In this Project, we can use **Incremental and Waterfall Model** as Spreadsheet system had already some features which indicates the some of the requirements have already defined which may have been implemented using Waterfall Model and other desired features which can further be implemented using Incremental Model.

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.

In this Project, **Spiral Incremental Model** can be used as the requirements are changing fast and where an in-house development team is available for all aspects of the Project. So, due to changes in requirements at each phase in SDC we ca use this model.

E) 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.

In this Project, we can use **Incremental and Prototyping Model** in combo as for an e-commerce website which requires large features for better user experience we need to provide basic framework as a prototype to the user and for adding new features frequently we can use Incremental Model.

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

In this Project, we can use **Waterfall model** as the requirements are fixed in this case and once it is implemented, there are no changes required.

G) A virtual reality system to support software maintenance.

In this Project, we can use **Incremental Model** as this type of systems need to add new features timely and tested regularly at every iteration to support software maintenance and need to cover cases where system fails or gives an error.

H) A university accounting system that replaces an existing system.

In this Project, we can use **Waterfall model** as requirements for the university accounting system is already specified and does not changes.

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

In this Project, **Prototyping model** can be used as here first prototype needs to be developed so to address the fast accessing of the available train times to the passengers. Then we can update the extra features in the system.

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

In this Project, we can use **Waterfall Model** as the project requirements is already specified by the government and there are no/minimal changes once the software is developed.

K) 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.

In this Project, we can use **Incremental Model** as the changes have been modified before requirements are approved So, the system can adapt new functionalites at each iteration of the Software development process.

L) Software for ECG machine.

In this Project, we can use **Incremental Model** as ECG is the device in which reliability and accuracy is most important. Hence, the Software can be updated with new functionalities at each iteration.

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

In this Project, Clearly **Waterfall Model** can be used as project is on small scale and requirements of the project are well understood and after development of Project, there are no changes in the Project.