DHIRUBHAI AMBANI INSTITUTE OF INFORMATION AND COMMUNICATION TECHNOLOGY

SOFTWARE ENGINEERING

- Prof. Saurabh Tiwari

LAB 1: Choosing Software Process Models

MAYANK GOUR

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(Group 1)

a) A simple data processing project.

Ans: **WATERFALL MODEL**

Since the requirements are predefined or 'frozen' and it doesn't require changing it, the Waterfall Model is the best suited.

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

Ans: **PROTOTYPING MODEL**

As the user interface (UI) is extremely important and office staff are novice and their requirement is not clear prototyping model would be best suited.

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

Ans: **EVOLUTIONARY PROTOTYPING MODEL**

Since the software requirement needs to be changed, i.e. in this case, new features should be added as well as shouldn't lose the old features so this means prototype should be accepted so we would use Evolutionary prototype 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.

Ans: **INCREMENTAL MODEL**

Since the requirements are changing fast that means it was not clear beforehand and customer interaction will be more so module by module working will be efficient in that case incremental model should work out.

e) A Website 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.

Ans: **AGILE MODEL**

A website for an online store which has a long list of desired features, Agile model will work good as new releases with new features are made very frequently in it and with customer feedback it can be improved and re-released later.

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

Ans: **Waterfall Model**

Since the ABS in car has specific requirements and functionality known beforehand, Waterfall model can represent it perfectly.

g) A virtual reality system to support software maintenance

Ans: **INCREMENTAL MODEL**

Since the requirement of the system will change and cannot be predicted before the implementation so incremental model will work out.

h) A university accounting system that replaces an existing system

Ans: **WATERFALL MODEL**

As we already have requirements of university accounting system due to the existing system. So, our requirements are stable, and the system is reusable.

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

Ans: **PROTOTYPING MODEL**

So, in this system interaction with users is crucial to make our system more interactive, which can be done by using prototype modeling.

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

Ans: **SPRIAL MODEL**

Since here risk cannot be taken and it is a big project, to identify different types of targets requirements may be changed and would require lot of testing. Hence spiral model needs to be used.

k) When emergency changes must be made to the 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.

Ans: **Iterative Model**

Since it requires rapid changes done without even being approved- that implies that it might need to be undone. Moreover, time is very critical and the risk of software becoming inconsistent shouldn't have any scope. So, the Iterative Model is perfect.

l) Software for ECG machine

Ans: **Waterfall Model**

All the requirements are known beforehand, and it has specific functionality. So, the Waterfall model is the best suited.

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

Ans: **Prototyping Models**

Since it's a project, even though it is well understood, the possibility that the requirements may change while the final product is still under construction shouldn't be ignored. However, it's specified that the later changes won't be allowed. So, it is perfectly represented by Prototyping models.