IT314 Software Engineering

Lab 1

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Topic : Choosing Software Process Models

Q.1 : A simple data processing project.

Ans. : Waterfall Model

Reason : For simple and well understood problems we can use the waterfall Model. Which is easy to understand and easy to use.

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Q.2 : 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

Reason : First we create a basic prototype and try to explain it to the client. If a client want to do some changes then we can build a different prototype which is understandable by the client. By doing this, the client also gets some idea about how the system works.

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

Ans. : Evolutionary Model

Reason : It has both Incremental Model and iterative model advantages. First we can implement a few basic features and deliver to the customer. After that we can add on multiple features step by step. We also get advantages of the iterative waterfall model.

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Q.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.

Ans. : Agile Model

Reason : Here requirements are changing very fast. So we can first

provide a client to a system in chunks. Then whatever changes they want we can do that. Here frequent communication with client happens.

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Q.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.

Ans. : Evolutionary Model

Reason : Evolutionary model is using Incremental model and Iterative waterfall model. So first we create a base model and deliver it to the client. After that whatever features the client wants to add they can do that. We also get the benefit of feedback in our model.

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

Ans. : Waterfall Model

Reason : By providing requirements from the client we can build a system which is to control anti-lock braking in a car. Here Iterative waterfall model will be used because once it is completed then after is delivered to the client.

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Q.7: A virtual reality system to support software maintenance

Ans. : Agile Model

Reason : For creating modern virtual reality systems we need to use the most promising model which is the agile model.

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Q.8 : A university accounting system that replaces an existing system

Ans. : Waterfall Model

Reason : Here requirements are fixed because we already have an

existing system. So using an Iterative waterfall model which has the advantage of feedback we can create this system.

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

Ans. : Prototyping Model

Reason : We provide a base prototype to the customer and if the prototype is not satisfactory then we change it and make it according to the customer.

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

Ans. : Spiral Model

Reason : For handling risks we prefer to choose a spiral model. Here we need to create an accurate missile guidance system. Requirements are not changing but we need to focus more on testing and developing proper software.

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Q.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.

Ans. : Prototyping Model

Reason : Here before starting designing software we do customer evaluation. If the prototype is not satisfactory to the customer we change it and make it according to the customer.

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Q.12 : Software for ECG machine.

Ans. : Spiral Model

Reason : This is also a high risk task. For that we use a spiral model. It is flexible and gets customer satisfaction.

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

Ans. : Waterfall Model

Reason : Here requirements are fixed so no changes will be made. And for small scale projects the waterfall model works really fine.

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