IT314 SOFTWARE ENGINEERING

LAB 1

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a) A simple data processing project.

Ans: Waterfall Model

Reason: Since the requirements for the project are simple and clear from the beginning, there will be no or minimal changes later. Hence, the waterfall model is the most suitable model here.

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

Reason: Since user interface and user-friendliness are extremely important here, continuous feedback from the user will be required, and also the staff have never used computers before, so it will be a lot beneficial to build a prototype and improve upon it.

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

Ans: Incremental Model

Reason: Here the most suitable will be the incremental model as it allows implementing some of the basic features and then adding more features in the future.

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: Agile Model

Reason: For projects where the requirements are changing fast and the project needs to be adaptive to changing requirements, the Agile model is the best fit.

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.

Ans: Incremental Model

Reason: Since there is a long list of desired features and we want new releases with more features, so incremental model will be the best fit as we would be first implementing initial requirement and then further adding features in each release.

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

Ans: Spiral Model

Reason: Since the project requirements are very clear with the scope of further improvements, Spiral model will be most suitable here.

g) A virtual reality system to support software maintenance

Ans: Incremental Model

Reason: For software maintenance, user feedback will be required and the software will keep improving on the basis of user feedbacks. So Incremental model will be most suitable here.

h) A university accounting system that replaces an existing system

Ans: Waterfall Model

Reason: Since the requirements are already known to us and we are working on replacing the existing system, waterfall model will be the best suited.

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

Ans: Evolutionary Prototype Model

Reason: Since the system is interactive, user interface will be high important and it would need to be upgraded with new features in each release, so evolutionary prototyping would be most suited.

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

Ans: Spiral Model

Reason: Since the risk involved is very high here and we require high accuracy, Spiral model will be most suitable to for minimizing the risk and developing the most accurate system.

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.

Ans: Agile Model

Reason: In the situation where emergency changes need to made, Agile model is best fit because it is adaptive to the fast changing requirements.

l) Software for ECG machine.

Ans: Spiral Model

Reason: Since the requirements are known clearly and the risk involved is too high, spiral model will be most appropriate for minimizing the risk and developing the machine efficiently.

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

Ans: Waterfall Model

Reason: Since the project is small scale project and requirements are well understood, Waterfall model will be the best suited as there will be no further changes in the requirements.