IT-314 Software Engineering
Lab - 1

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a) A simple data processing project.

The appropriate software process model is **<u>Waterfall</u>** as the requirements are well-defined and fixed and the problem is simple.

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

The appropriate software process model is **<u>Prototype</u>** as the problem wants a friendly user interface and the users are novices.

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

The appropriate software process model is **<u>Incremental</u>** as there are already some basic features and we would like to add new features on by using these basic features.

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.

The appropriate software process model is **Agile** as the system requirements are changing fast and the agile model is suitable for these types of rapid updates.

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.

The appropriate software process model is **Agile Scrum** as new releases with new features are required frequently. So we can divide the project into different sprints.

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

The appropriate software process model is **Spiral** as there is human risk involved and our goal is to minimize failures.

g) A virtual reality system to support software maintenance

The appropriate software process model is **Agile** as requirements will change over time.

h) A university accounting system that replaces an existing system

The appropriate software process model is **Waterfall** as the requirements are already known from the existing system and there will not be any further changes in the existing system.

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

The appropriate software process model is **<u>Evolutionary Prototyping</u>** as the system must be reliable and system requirements will change over time with user experience. The UI may not be comfortable to use initially and hence it has to be tested multiple times on a prototype.

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

The appropriate software process model is **<u>Spiral</u>** as the project requires proper risk management and safety.

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.

The appropriate software process model is **<u>Agile</u>** as the system requires frequent and consistent changes to be made.

l) Software for ECG machine.

The appropriate software process model is **<u>Spiral</u>** as there is a risk to human life hence proper risk management is required. The system also needs to be highly accurate.

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

The appropriate software process model is **<u>Waterfall</u>** as the project is small scale and the requirements are well understood. Also, there will be no changes in the requirement once decided so the waterfall model is suitable.