LAB 1

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1. A Simple data processing Project

* Waterfall model would be the most generic software for this purpose.
* Features: We need simple project and the main purpose of this model is also to develop simple projects. Also phases of this model align with steps like data analysis, transforming, and reporting.
* Non functional aspects, such as performance, scalability, and security, might not be the primary focus in simple data processing project. This model allows these aspects early in the development process during the design phase.

1. A data entry system for staff who have never used computers before.

* For this purpose prototyping will play major role. So incremental model would be best to serve this purpose.
* As staff do not know anything about computers, From time to time we can take reviews of users and accordingly we can make changes in software. So, after first prototyping we can get the users’ interest and in the later phases when users become familiar and ask for more changes or services, through incremental model we can serve the purpose.

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

* Incremental model would be better choice for this purpose.
* As we know that we have to build a system that has already some basic features and many desirable features that use these basic features, there must be prototyping and evolution from time to time and also user feedback is needed and maintenance and very much flexibility is needed, which can be done by incremental model more effectively.

1. 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.

* For this purpose Agile model would be better.
* As here requirements are changing fast, So “Rapid requirement changes” Is one of the features of Agile model.
* Incremental development, Collaboration, Communication, In-house team and many other requirements can be fulfilled through this model more effectively.

1. 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.

* Iterative model would be efficient choice to serve this purpose.
* Regular delivery reduces the risk and here we need frequent changes in the software. And Also this model allows users’ feedback, which is necessary in this type of software.

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

* Spiral model would be better choice for this software.
* As the purpose is very sensitive and the mistakes in software would take the user in very crucial situation. So, it is risky and thus spiral model is better.

1. A virtual reality system to support software maintenance

* Iterative model would be better choice.
* Here the software needs to be constantly evolving and thus iterative model provides changes when time comes.

1. A university accounting system that replaces an existing system

* Iterative model again serves better in this regard.
* Here we have to replace an existing system, Iterative model allows for a phased approach to replace it gradually.
* User adoption and flexibility for changes also plays significant role in this software, and iterative model provides those things.

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

* The spiral model is ideal for projects with higher levels of risks and uncertainty. For the interactive system in question, there could be various complexities related to data integration, real-time information, and user interface design. The spiral model allows for risk assessment and mitigation at each cycle, reducing the likelihood of unexpected issues.

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

* Spiral model would be most suitable for this purpose.
* Here so much risk is involved that this guidance will play crucial role.
* Also there is need of involvement from user side also, Some technicality users would have to learn about this software. So due to these various points, spiral model should be there.

1. 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.

* Incremental model would be bets as the specifications which is asked here from software, actually those are the benefits of iterative or incremental model.

1. Software for ECG machine.

* Spiral model would be perfect choice for this purpose.
* As here the risk is involved clearly. And there is need of some technical knowledge from the user side also to operate the machine. So Spiral model serves better.

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

* Waterfall model would be the best.
* A project is small scaled and well understood, As well as No changes is required, So waterfall model is best to prepare the software earliest.