IT632 Software Engineering Lab1 202112114

- **A simple data processing project.**
  - Model/s': Iterative / WaterFall
  - Brief: Here, the requirement will be fixed and there is no near chance of changing it. Also, corresponding to the user's feedback, during the processing after each iteration the changes could be made accordingly.

- **A data entry system for office staff who have never used computers before. The user interface and user-friendliness are extremely important.**
  - Model/s': Incremental / Prototyping
  - Brief: Here, the idea is such that the software is developed in an incremental approach, thus with each increment adding some functional capability to the system until the system is implemented.

- **A spreadsheet system that has some basic features and many other desirable features that use these basic features.**
  - Model/s': Iterative Incremental Model / SCRUM
  - Brief: Here, the aim is on various desirable features alongside the significance of the basic features so with the changes occurring as of, responding to change over following a set plan. It allows developers to react quickly to changes as their product evolves. They will build on previous versions to improve the software and repeat this process until the desired results are achieved.

- **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.**
  - Model/s': RAD / Agile
  - Brief: As stated, the system needs to adapt to rapid changes and also an in-house development team is also available. We can use RAD / Agile as they are flexible in terms of adapting rapid changes. It reduces development time as it allows reusability of features and highest priority to the functioning.

- **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.**
  - Model/s': Agile
  - Brief: Agile model can be useful as it brings multiple features on the table. It allows continuous improvement, adaptive approach, flexible structure, client satisfaction, less risky.

- **A system to control anti-lock braking in a car.**
  - Model/s': Spiral
  - Brief: Here, the focus is on the safety of the user. So, for proper functioning the analysis and the requirements must be gained flawlessly. Also, regressive testing should be made as it is a matter of safety of the user.

- **A virtual reality system to support software maintenance**
  - Model/s': Incremental / Agile
  - Brief: Here, the requirements cannot be predicted as it keeps changing from software to software. It requires complex programming as well as not every system would be similar.

- **A university accounting system that replaces an existing system**
  - Model/s': WaterFall
  - Brief: As it is an existing system all the requirements are known priorly and are reusable.

- **An interactive system that allows railway passenger to find train times from terminals installed in stations.**
  - Model/s': Prototype / WaterFall
  - Brief: As the system is complex but with a stable and reliable UI, the system should be based on the Throw-away Prototyping model. But if the requirements are well understood and if the UI doesn't matter much then the WaterFall model can be followed.

- **Company has asked you to develop software for missile guidance system that can identify a target accurately.**
  - ➢ Model/s': Spiral
  - ➢ Brief: We know that it involves great risk as, if unfortunately, there occurs a misjudgement in setting up the target, it will be no less than a disaster. It even requires great expertise of various individuals, so it may tend to be complex programming.

- **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.**
  - ➢ Model/s': Incremental / Scrum (Agile)
  - ➢ Brief: Incremental model / Scrum can be considered as the best suitable model as modifications in older versions are feasible and can be easily managed. Here, the system is designed, implemented and tested in stages until the desirables are not achieved. It ensures development as well as maintenance.

- **Software for ECG machine.**
  - ➢ Model/s': Spiral
  - ➢ Brief: Here, the requirements are complex and useful for critical information related to a patient's health, so to eliminate the risk of false data, Spiral Model could be the best Process Model for an ECG Machine.

- **A small scale well understood project (no changes in requirement will be there once decided).**
  - ➢ Model/s': WaterFall
  - ➢ Brief: Here, the requirements are well understood and there is no need of changing the environment, so as there prevails rigidity in the structure, the WaterFall model can be a best fit.