IT-314 Software Enginering

LAB-1

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Lab Group:- 5

- Choosing Software Process Models :-

1. A simple data processing project
   - **Water Fall** :- As specified in the problem statement A waterfall model will be the most appropriate model for this development because the problem is straightforward and has a low level of complexity.

2. A data entry system for office staff who have never used computers before.The user interface and user-friendliness are extremely important.
   - **Prototyping model** :- The optimal approach would be to adopt a prototyping model because, as stated in the problem description, the challenge calls for a more user-friendly and less complex user interface.

3. A spreadsheet system that has some basic features and many other desirable features that use these basic features.
   - **Incremental** :- This project already has some features as stated in the problem statement, and we want to add more features based on the existing ones, making the best appropriate model.

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.
   - **Agile**:- Since the current client needs tremendous flexibility and quick updates, the agile model will be the most effective strategy.

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.
    - **Incremental** :- As stated in the problem statement, we will regularly need to introduce new functionality. We may therefore use an incremental approach to minimise the update cost.

6. A system to control anti-lock braking in a car.
    - **Spiral** :- The spiral model is the most appropriate in this situation since it is a model that focuses on iterative development with risk management. As stated in the problem statement, this problem affects human life thus we have to focus on minimising failures.

7. A virtual reality system to support software maintenance
    - **Prototyping** :- Because VR technology is still developing, it lacks clear criteria and instruction manuals, hence the prototyping model works well in this situation.

8. A university accounting system that replaces an existing system
    - **WaterFall** :- Since the university accounting system is already in place and has a defined set of instructions, as stated in the problem statement, waterfall modelling is the most suitable solution.

9. An interactive system that allows railway passenger to find train times from terminals installed in stations.
    - **Evolutionary Prototyping** :- We can use the evolutionary prototyping model because, as stated in the problem, the users might not be very comfortable with the user interface. Therefore, the UI should be very understandable and self-explanatory to reduce the likelihood that they will make mistakes.

10. Company has asked you to develop software for missile guidance system that can identify a target accurately.
    - **Spiral** :- The spiral model suits this issue statement's high degree of precision, safety, and danger nicely.

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.
    - **Agile** :- We can apply the agile approach since it has the advantage of being consistent with the rapid changes that this system necessitates.

12. Software for ECG machine.
    - **Spiral** :- High precision is present in this issue, and it occasionally has disastrous consequences. We should employ the serial approach, where each step is double-checked, because it takes a high level of knowledge and almost no room for error.

13. A small scale well understood project (no changes in requirement will be there once decided).
    - **WaterFall** :- Since the problem is straightforward and simple, using the waterfall paradigm makes sense in this situation.