IT 314-Software Engineering
Lab -1
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Lab Group-1

1. *A simple data processing project* ***- Waterfall Model***
   Explanation-A simple data processing project would have frozen requirements, and would not require user interaction during development. This project would serve as an automation of existing manual system; therefore, a waterfall model would fit best.

2. *A data entry system for office staff****- Prototyping***
   Explanation- As the software will serve novice users and GUI is very vital, Prototyping will best serve the purpose. Prototyping enables better risk proof systems.

3. *A basic spreadsheet system****- Incremental Model***
   Explanation-As this system involves creating many other desirable features using some basic features, incremental model provides an excellent option as it allows developers to build upon basic features in-order to include advanced functionalities.

4. *A web-based system****-Agile Model***
   Explanation-In this application, as requirements are rapidly changing, an agile model would fit best for accommodating changes, and different teams working on the application can work efficiently to keep pace with changing requirements.

5. *A Web-site for an online-****Agile Model***
   Explanation-In this application, as new features are constantly added, agile model would fit best for accommodating new

features very frequently. Also, different teams working on the application can work efficiently to keep pace with changing requirements. The agile model also provides

6. *anti-lock braking in a car-**Spiral model***
   Explanation-Spiral model provides good product visibility and reduces risk, which is vital for braking in a car. It also incorporates the advantages of waterfall and rapid prototyping methods, thus increasing its efficiency.

7. *virtual reality system to support software maintenance-* ***Iterative model.***
   Explanation-It supports iterative development and provides functionality for updates and enhancements as the technology advances. Also, in case of virtual reality, the requirements are not known initially and will be known with time, so iterative models are best suited.

8. *A university accounting system that replaces an existing system-* ***waterfall model***
   Explanation- As the problem is well understood, i.e., the requirements are known properly before hand, a waterfall model is suitable. Also, as this project would serve as an automation of an existing manual system, a waterfall model would fit best.

9. *An interactive system that allows railway passengers to find train times from terminals installed in stations.* ***- Prototyping***
   Explanation- As the software will serve novice users (passengers) and interactive system is required, Prototyping will best serve the purpose. Prototyping enables better risk proof systems.

10. *The company has asked you to develop software for missile guidance system that can identify a target accurately-* ***Spiral***

Explanation-As missile guidance systems require high accuracy and low risk, a spiral iterative model would fit best. It also incorporates the advantages of waterfall and rapid prototyping methods, thus increasing its efficiency. To assure the correctness and dependability of the system, these models place a strong emphasis on rigorous testing and verification.

11. *When emergency changes have to be made to systems-* ***Agile Model***

Explanation-The agile model is very useful when changes are expected to reflect immediately, thus maintaining data consistency. These models support iterative development and successfully adapt to changing requirements.

12. *Software for ECG machine****-Spiral model***

Explanation-As ECG machines are used in heart related diagnosis, the accuracy of the machine plays a vital role. Thus, the spiral model, which promises accurate results, would benefit. It also incorporates the advantages of waterfall and rapid prototyping methods, thus increasing its efficiency.

13. *A small scale well understood project (no changes in requirements will be there once decided).* ***-Waterfall Model***

Explanation: A waterfall approach is appropriate since the problem is clearly defined and the needs are known in advance. A waterfall model would also work best because this project would automate an already manual system.