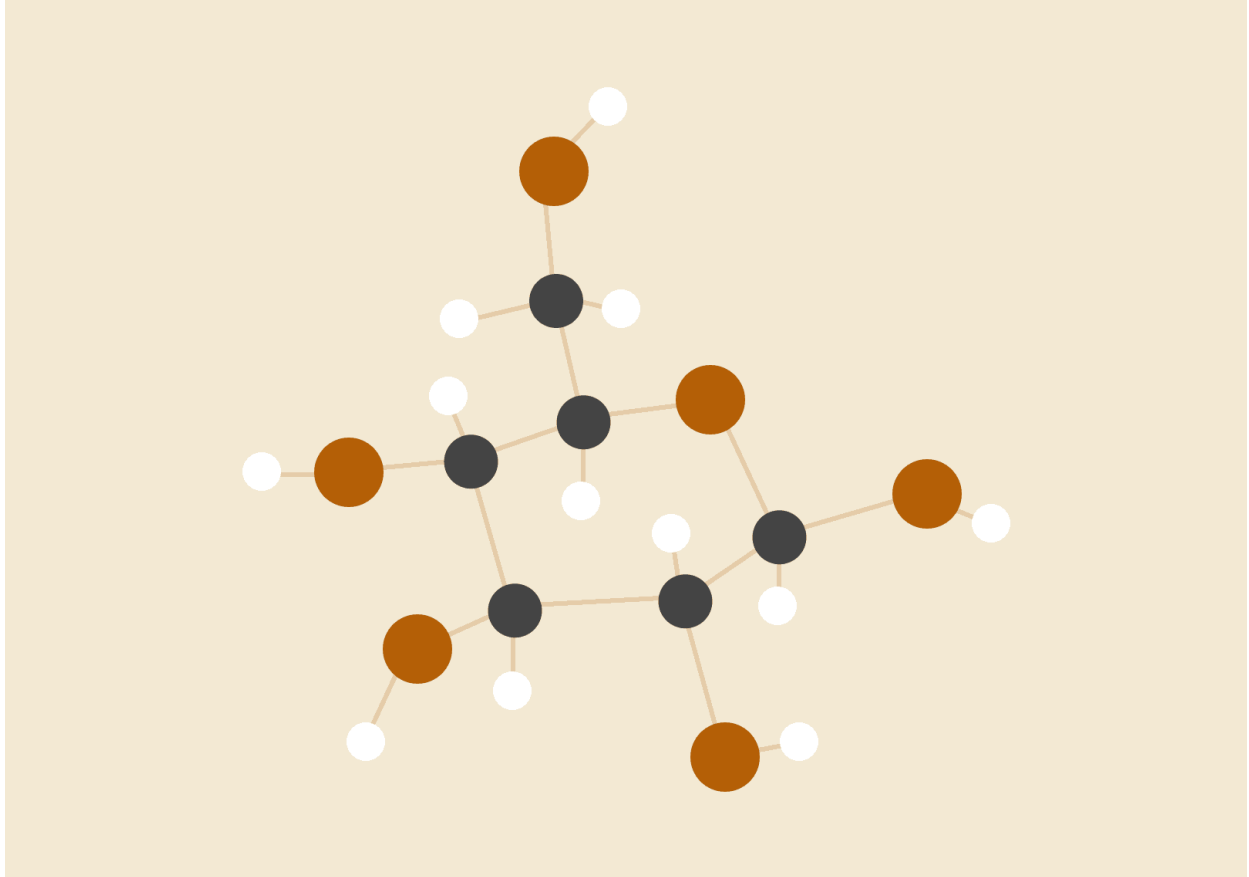


SOFTWARE ENGINEERING

IT314



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31.07.2023

LAB - 1

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CHOOSING SOFTWARE MODELS

1. A simple data processing project.

- Waterfall Model
- Requirements for this project is easy to analyze and there are less chances of changes. Also it is easy to explain to customers.

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
- As we need to make a system for users who have no experience of using computers hence we need to make as simple UI as possible to make it user friendly so we can make a prototype and then add new features according to further needs of users.

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

- Incremental and Waterfall model
- Spreadsheet system has already some features which indicates that already some of the requirements are defined which are implemented using Waterfall model and other advanced features are built on the basic features which can be implemented using incremental model by building updated/newer versions.

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.

- Spiral Incremental Model
- As the requirements for the software is changing fast so the requirements at every stage of the process won't be much clear hence new features and functionalities can be added at each iteration along with measuring risk. Requirements can be suggested in the further time according to the needs of the customer.

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 and Prototyping Model
 - As it's an e-commerce website so the user experience is the most essential thing. New features can be added at each stage of the development process according to the needs as per the incremental model and at first we need to provide an basic interface as a prototype to the user.
6. **A system to control anti-lock braking in a car.**
- Waterfall model
 - As this system in the car is one of the most critical system as we already know the requirements of the anti-lock braking system and once it is implemented, there are no or minimal changes into the system.
7. **A virtual reality system to support software maintenance**
- Incremental Model
 - These types of systems need to add new features and regularly tested at every iteration to support software maintenance and need to cover cases where the system fails or reports an error.
8. **A university accounting system that replaces an existing system**
- Waterfall model
 - As the university system is already built so the requirements are already specified and known to us and the codebase can also be reused for making another system.
9. **An interactive system that allows railway passenger to find train times from terminals installed in stations.**
- Prototyping Model
 - This system needs to address fast accessing of the available train times to the passengers so we can use the prototyping model to first develop the essential features and then update the extra features in the system.

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

- Waterfall Model
- This project has all the requirements specified initially itself by the government and there are no/minimal changes once the software is developed.

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.

- Incremental Model
- The changes that has to be modified before requirements are approved, the system can adapt new functionalities at each iteration of the software development process.

12. Software for ECG machine.

- Incremental Model
- ECG machine is a device in which accuracy and reliability is the most important. Hence the software can be updated with new functionalities at each iteration along with risk and testing management.

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

- Waterfall Model
- As it's a small scale project and there are no changes in the requirements of the project hence the best suitable model is Waterfall model.