

## SWE LAB 1

- Describe the process and characteristics of building a house following the waterfall way of working. Describe the advantages and disadvantages of building a house this way

Customer gives the description of the house to the Architect

Architect designs the model and gives it to Engineer

Engineer builds the house

Finally, the customer gets to see the house.

Advantages of using waterfall model

The customer is involved only at the beginning of the project

The house gets built at the end of the phrase

Disadvantages of using Waterfall

Customer does not get a chance to change his requirements after initial ones

There is a higher chance of getting a different house than the imagined one.

- Describe the process and characteristics of building a house following the RUP way of working. Describe the advantages and disadvantages of building a house this way

Customer gives the description of the house to the Architect

Architect designs the model and gives it to Engineer

Engineer start building the house

Customer sees it and gives feedback

From customers feedback some parts may be redesigned and rebuilt

Advantages of RUP

The house can be redesigned and rebuilt

The product may be what customers visualized due to feedback

Disadvantages of RUP

It is expensive, building and tearing the house down can cost fully.

- Describe the process and characteristics of building a house following the SCRUM way of working. Describe the advantages and disadvantages of building a house this way

Customer gives the description of the house to the Architect

Architect designs the model and gives it to Engineer

Engineers start building the part of the house

Customer sees it and gives feedback

The part might be redesigned and rebuilt again depending on the customer's feedback.

The process goes on until the house is completely built

Advantages of using scrum

Customer is involved in project, thus higher chance of getting a desirable product

Disadvantage of Scum

It is expensive, tearing and rebuilding a house is not feasible.

- Describe how devops are different from other software development methods. What are the advantages and disadvantages of devops.

DevOps is not as specific as writing code but is rather concerned with creating the right environment for the developed code to run continuously and be easily maintained.

Advantages of DevOps

Most applications usually require similar steps and types of setups.

#### Disadvantages of DevOps

It will always require the small parts of code to be written and available. DevOps does not necessarily solve problems on its own.

- What kind of projects can be best done using the waterfall way of working? What kind of projects can be best done using the RUP way of working? What kind of projects can be best done using the SCRUM way of working? What kind of projects can be best done using the devops way of working?

The projects that can be done using

→ Waterfall – When the requirements are well known, clear and fixed

The project is short, Technology is understood, and when there are no ambiguous requirements.

- RUP – For producing high quality software within time and budget constraints, but not in too complex project
- SCRUM - Projects that can be broken down into small pieces
- DevOps - projects that have small pieces done and just require integration and environment setup

- What are the characteristics of documentation in a software project? How do you think we should document our software system: extended and detailed documentation or only small overview documents? What are the consequences or problems of your choice and how can we manage these problems?

Documentation can be detailed and ceremonial as in waterfall or loose to non-existent in the case of Agile. Different software systems need different levels of documentation, and it should be clear and concise enough for a new developer to understand how it works. The smaller the documentation is the harder it will be to debug any errors because it will take longer to locate the error, in this case we should consider having documentation at least for all that has been implemented and how, this way it will be easier to maintain.

Generally, the more detailed the documentation the better but that will take too much time away from development and implementation, so we must be diligent about setting development and testing time aside.

