

# SOFTWARE ENGINEERING

## CSE 470 – Waterfall Model

BRAC University



Inspiring Excellence



Team Lead



Model A

Model B



Model C







# Waterfall Model

- A sequential methodology for software project management.



**Requirement  
Analysis**



```
graph TD; A[Requirement Analysis] --> B[Design]; B --> C[Coding]; C --> D[Testing]; D --> E[Deployment]; E --> F[Maintenance]
```

The diagram illustrates the waterfall model of software development. It consists of six sequential stages: Requirement Analysis, Design, Coding, Testing, Deployment, and Maintenance. Each stage is represented by a text label in a bold, dark green font. The stages are connected by thick, light green curved arrows pointing downwards and to the right. The background of the slide is a scenic image of a large waterfall cascading over rocky terrain in a lush, green mountainous area with misty peaks in the distance.

**Design**

**Coding**

**Testing**

**Deployment**

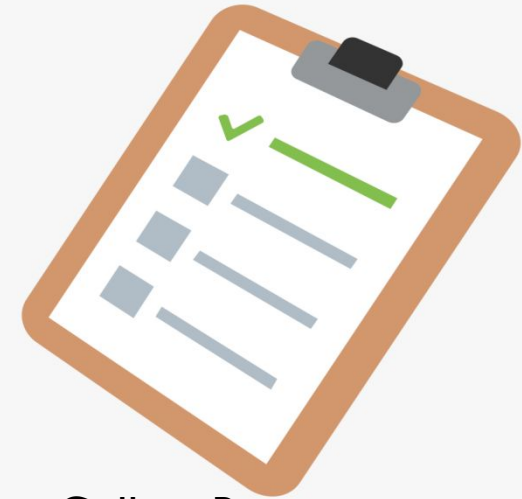
**Maintenance**

# Requirement Collection



Client Meeting

It starts with the concept about what the customer wants to do.



Collect Requirements

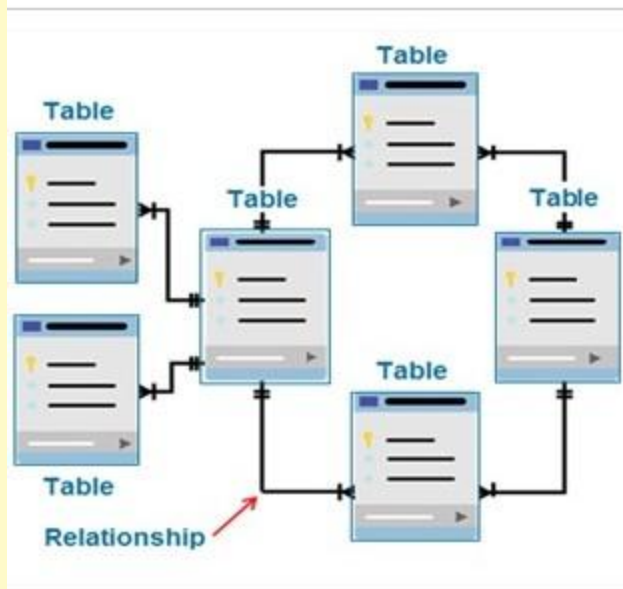


1. Address the problem
2. Identify the feasible and non-feasible requirements
3. Identify how the software will meet the customer requirements

**APPROVED**



# Design



Creates the logical and physical design of the software project



**APPROVED**

# Coding

1. We need to build it first
2. Coding can not start until design is fixed properly
3. Starts with converting the design in actual running software.
4. The design is spilt into blocks, and blocks are converted to code modules on after another.



APPROVED

# Testing

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1. Check the software against the requirements set at Requirement Analysis Phase.
2. In case of any problem, that problem is fixed in the code.



It works perfectly !!

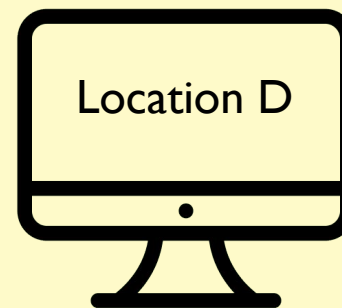
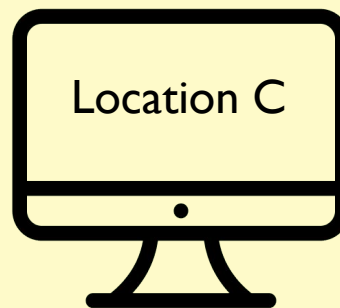
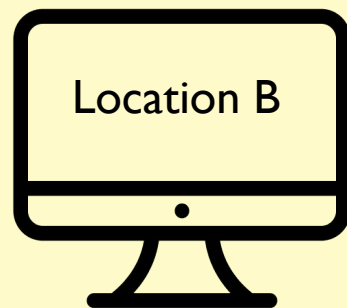
That does not work !!

**APPROVED**



# Deployment and Maintenance

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1. The software goes in production in actual information technology environment, specially goes to user environment.
2. Step by step deployment and maintenance performed
3. If anything goes wrong here will be maintained and resolved by the team.
4. Feedback may also be collected

# When to choose Waterfall Model

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Requirements are well known



Small scale and short term project



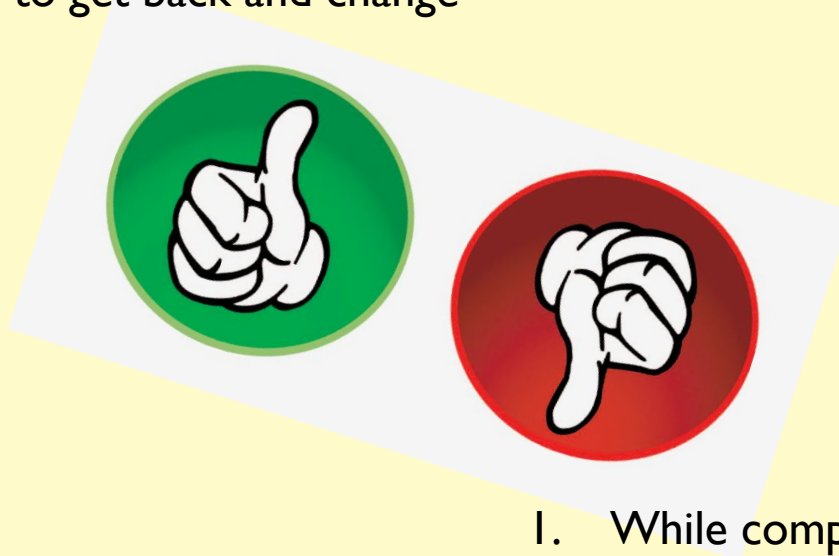
Resources are available and trained



Technological tools required are not dynamic, instead are stable

# Advantages & Disadvantages

1. Simple to Use and Easy
2. Stages go one by one, so sudden changes can not create confusions
3. Any changes is done only in Development stage, so no need to get back and change everything.



1. While completing a stage, it freezes all the subsequent stages.
2. No way to verify the design
3. Once in testing phase, no more features can be added
4. Code Reuse not possible



# Example Case

1. One of your uncle requested you to develop an accounting calculator for his local shop.
2. Your start-up company wants to develop an accounting calculator for super shops.

***Will you use Waterfall model for both Case 1 and 2?***

