

# Software Management Methods

## Interview Questions & answers:

- What do you know about the **Waterfall** method?
- Did you work in a **Agile team** ? What are the things you liked about Agile?
- [What is your software management method?](#) Which methodology did you follow ?
- Agile or Waterfall? Which one do you prefer?

## What is a software method?

- A software management method is essentially **a set of principles and rules** to processes for managing a project.
  - There are several software methods in the IT industry.
  - All the project management methods have **unique rules and principles** that **describe how to follow the SDLC**.
  - Each software method has a strict rule to **manage, plan, and control** software development **procedures** .
  - The different software methods for IT companies:
    - waterfall
    - Agile
    - V-model
    - etc

# Waterfal Method History

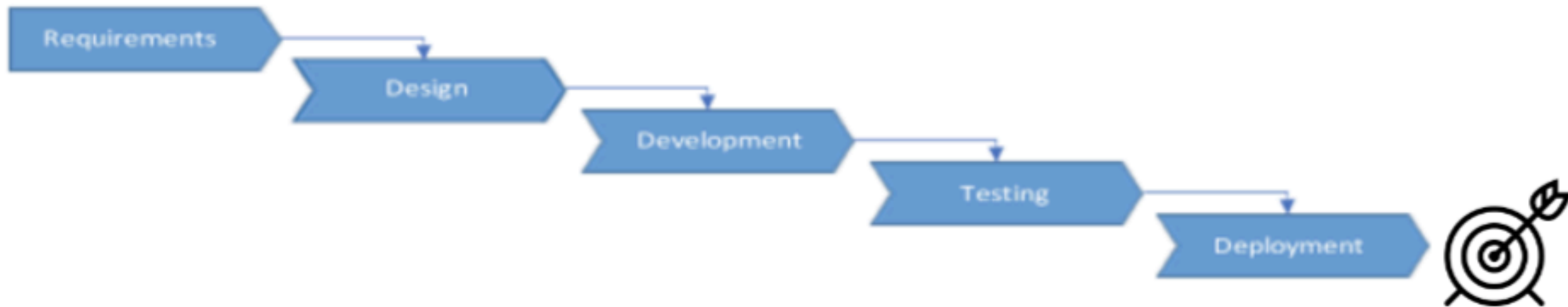
- The "Waterfall" method is from the **Construction Industry** to the **IT Industry**.
- A product has to be developed **step by step** in the construction industry. People should work carefully on each step because they cannot go back to the previous step to fix errors based on the Waterfall method rule.



**Construction Industry**



## Waterfall ...



**BIG FINAL PROJECT AT THE END**

## Advantages

- ▶ **Easy to understand and implement.** There is no need to train the team and familiarize them with the Waterfall methodology.
- ▶ The **start and end points** for each phases are **set**, which makes it **easy** to **measure** progress.
- ▶ The **stability** of the model makes project management easier.
- ▶ Since all phases occur without any overlap, hence it **reduces** the project **complexity**.
- ▶ **Careful** planning of project development **structure reduces** the number of problematic **issues**;
- ▶ **Quality and Detailed Documentation.**

## Disadvantages

- ▶ **Poor software result** for long duration and large projects.
- ▶ If the customer's requirements are not clear, then it could create significant complications later in the project development life cycle.
- ▶ **Little to No Changes.** Once the requirement is finalized, any changes in requirements would not only be difficult but also costly



### Agile methodology definition:

- Modern, well-known, wide used software project methodology
- Started in 2000
- The **goal** is: **speed up development times** in order bring new software to market faster

This goal can be achieved by :

1. Shortening the deployment time
2. Getting feedback from users quickly -> the client , involved in each step of SDLC



- The **success** of the Agile process **depends on**:

- \* Short & quick (increments in a couple of weeks and the fully functional version in a few months)
- \* Self-organized team
- \* Communication
- \* quickly adjust the working process
- \* Quick feedback

- To implement the Agile in a company/team, first each member should know **Agile-Manifesto**

The Agile Manifesto is an advisory, public advice which contains the values and principles to follow in the Agile methodology.

Agile Manifesto = 4 **Agile Values** & 12 **Agile Principles**



## What is the Agile Manifesto

**Individuals and Interactions**

**over**

**Process and tools**

**Working Software**

**over**

**Comprehensive documentation**

**Customer Collaboration**

**over**

**Contract negotiation**

**Responding to change**

**over**

**Following a plan**

## 1 Customer satisfaction



## 3 Deliver frequently



## 5 Attention to excellence



## 2 Welcome change



## 4 Measure by working product



## 6 Simplicity





## 7 Motivated individuals



## 9 Working together daily



## 11 Self-organizing teams



## 8 Sustainable pace



## 10 Face-to-face communication



## 12 Reflect and adjust



## Advantages

- ▶ **Better time-to-time market**
- ▶ Is a very realistic approach to software development.
- ▶ **Strong collaboration**
- ▶ **Accept changes** at any time
- ▶ project goal is defined with the client
- ▶ Project Improved Quality
- ▶ Little or no planning required which takes a lot of time
- ▶ Minimal rules, documentation easily employed.
- ▶ Functionality can be developed rapidly and demonstrated.



## Disadvantages

- ▶ **Planning may be weak**
- ▶ Lack of documentation
- ▶ Training and Skill Required
- ▶ Transfer of technology to new team members may be quite challenging due to lack of documentation.
- ▶ Depends heavily on customer interaction, so if customer is not clear, team can be driven in the wrong direction.

# Agile

