**12/09/2019**

**Emre Baybas**

**Waterfall Methodology**

Waterfall methodology is the first SDLC methodology that initially was originated from manufacturing and construction industry where iteration is not really an option in most cases. For instance, we will not be able to go back and make any changes since the foundation is already built while building a tower. Therefore, it is not the best methodology in todays software development word since industry is changing rapidly.

It is a project management methodology based on a sequential design process where one phase needs to be completely finished before starting on the next one. Waterfall method is about quality, completeness and getting it right in the first time. Therefore, it requires thorough planning and documentation.

Waterfall method is mostly used for smaller projects with smaller user base where requirements are well understood at the beginning and customer is unlikely to change requirements. If any requirement or design changes, project has to go all the way back to beginning and goes through the same phases again.

**Waterfall methodology uses the same seven phases of the SDLC.**

* Planning Phase
* Requirement Analysis Phase
* Design Phase
* Development Phase
* Testing Phase
* Implementation/Deployment Phase
* Maintenance Phase

**Advantages of the Waterfall Methodology**

* Easy to understand and manage
* Less production issues
* Phases do not overlap since next phase does not start before first phase completed
* Provides better budget management
* Provides clear structure to the team

**Disadvantages of the Waterfall Methodology**

* It is inflexible and less iterative
* Does not handle unexpected risk well
* It is not suitable for complex and long-term projects
* Difficult to make changes
* Difficult to capture all the requirements upfront

Often software is built in units and later integrated into a whole software. Once first unit is built, tested and completed then team moves onto building the next unit and testing.