

Agile Software Development

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Waterfall model

- The *Waterfall Model* is a traditional approach to software development that follows a process in a linear fashion.
- Waterfall is very rigid in its implementation:
 - Once a step in the process is completed, developers cannot go back to it.
 - This implies that careful planning is needed before undertaking the software project and when executing each phase of the Waterfall cycle.
- Great for long term projects with little change. Not so good when the environment is "fast paced."

Agile model

- The *Agile Model* of software development is an alternative to the Waterfall model.
- Decentralised and Flexible
- Dynamic, Feature driven, and Lean
- Effective communication through *Scrum* rituals.

Agile roles

- Project owner
 - Communicates with end-users
 - Defines software engineering problems
 - Creates and manages product back log
- Scrum master
 - Expert in managing labour power
 - Faciliates communication between project owner, developers and testers
- Developers
 - Any team member who is not the project owner or scrum master

Agile phases

1. Concept: Defining the problem, end-users, and cost.
2. Inception: Selecting the development team, assigning roles, and determine the software development toolkit.
3. Iteration: Developing and refining the software product.
4. Testing: Working out how well the software solves the defined problem.
5. Release: Deploy the software product to end-users.
6. Review: Retrospect, and refine the software as needed.

Discussion

- Waterfall and Agile models have their own weaknesses
 - Waterfall is too rigid, and all steps of its process must be executed.
 - Agile might be too flexible, it may be harder to measure progress.
- We can implement a hybrid model that borrows from both models depending on how the future plays out.

References

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