

AGILE Methodologies

SCRUM

- Scrum is an agile methodology
- Follows a pattern of regular releases of given features of the system.
- Development is usually conducted in small teams
- Both iterative and incremental in nature

SCRUM Organisational structure

- Product Owner
- SCRUM Master
- Development team

Key Components

- Backlog
- Sprint backlog
- Increment
- Extension

Structure of responsibility

- Who is able to change the backlog ?
 - Anyone....with permission from the product owner
- Who is responsible for the ordering of the elements in the backlog ?
 - Product owner
- Who attributes complexity to the items in the backlog ?
 - The development team

Development cycle

- Referred to as
 - A sprint
- At the beginning of a sprint....
 - Sprint planning occurs where backlog items are selected and the scope of development for those items are agreed.

Development Cycle

- A daily stand-up involves.....
 - Focused discussion for the day's development
 - Short in nature
 - Concerned with three key questions
 - What have I achieved to further progression to outcome ?
 - What is my intended progress today ?
 - What could impact this intent ?
- Reviews
 - Demonstration of constructed artefacts
 - Discussion related to those elements that were (in)complete

Development Cycle

- Retrospective
 - Improvement discussions with regard to team practices
 - Think reflective models

Advantages

- Less initial paperwork
- End user has input at several stages
- Keeps investors entertained
- Provides feedback loops early

Disadvantages

- What are the disadvantages of SCRUM ?
- In what situation does the framework become less effective ?
- How well does SCRUM play with others ?

What variations are there for SCRUM ?

- Scrumban – combination of scrum and Kanban principles
- LeSS – large-scale scrum, involving many teams, goal was to eliminate structural complexities in teams
- SAFe – Not quite scrum but a means of scaling from a single team

How many more methodologies

- Just the one....er maybe
- Just as there are variations within SCRUM there are in other methodologies too
- One such example of this is RAD

Adaptive Software Development

- Born from adaptations in RAD
- In much the same way as SCRUM values continuous adaptation
- Yes unfortunately, there is a life-cycle

Development Process

- Speculation
 - The planning stage of a development
 - Project is kicked off
 - Based upon the principle of finding the issues with the invested parties proposals

Development Cycle

- Collaboration
 - Balancing of work load in response to external change
- What constitutes external change ?
 - User input
 - Technology
 - Legislation
 - Standards

Development Cycle

- Learning
 - Equivalent to a scrum review and retrospective
 - An overview and evaluation of both the good and bad aspects of the development

Advantages

- Shorter development times
- Less initial design
- Fast-paced delivery
- Less difficulty adapting to change and requirement

Disadvantages

- What are the key disadvantages of Adaptive Software Development ?
- What are the impacts of this approach on larger teams ?
- For what type of projects does this work best ?

Methodologies

- Which do I need to know ?
 - ALL OF THEM
 - No seriously, all of them. Each methodology has something to offer
 - Each methodology is just a different approach, there are no wrong answers
- Who decides which one I should use ?
 - Yourself
 - Your client
 - Your organisation
 - Standards bodies

Why is are AGILE methodologies so great ?

- The real question is : Are they ?
- Each methodology has both advantages and disadvantages, both AGILE and traditional rigid models
- The principles of AGILE development are not new and many of the methodologies that fall under the traditional methods actually follow such principles

So why do I need to know what they are?

- To pass this module
- One day in the not too distant future you may need to utilise them
- To be aware there are always options available to you
- Not everything is a nail

Scenario

- Your company has been contracted to develop a piece of software that provides control functionality for the coffee maker on international space station. Your company has several projects being undertaken in parallel to this, there are currently 100 developers in your company half of which are currently deployed on another project.
- What approach to development management do you take ?
- What methodology do you utilise ?
- What requirements will there be ? write these in the appropriate form
- What design methods will be utilised ?