**Lecture 4**

Tech training

Agile software development refers to software development ideologies centres around iterative development. Requirements and solutions evolve through collaboration between self-organising and cross-functional teams.

A white background with pink text

Description automatically generatedAgile:

Agile:

A white background with black text

Description automatically generated

If you are following these values and principles, then you ARE following agile.

Agile methodology can be criticised in that the scope can continue to grow and become too large. If not managed properly, the scope can become too large, and start causing problems for the team.

Origins of Agile

Software developers in the 80’s and 90’s experienced high levels of failed projects and noticed some common traits:

* Too much analysis upfront.
* Restrictive change control.
* Too much uncertainty.

What happened next:

* Software developers collaborated and experimented with new ways of working.
* They took the successful ideas and wrote down an underlying set of values and principles:
  + The Agile Manifesto for Software Development.
    - Individuals and interactions over processes and tools.
    - Working software over comprehensive documentation.
    - Customer collaboration over contract negotiation.
    - Responding to change over following a plan.
* The 4 agile values:
  + Individuals and interactions
  + Working software
  + Customer collaboration
  + Responding to change
* Supported by the 12 agile principles:
  + Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.
  + Welcome changing requirements, even late in development. Agile processes harness change for the customer’s competitive advantage.
  + Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
  + Businesspeople and developers must work together daily throughout the project.
  + Build projects around motivated individuals. Give them the environment and support they need and trust them to get the job done.
  + The most efficient and effective method of conveying information to and with a development team is face-to-face conversation.
  + Working software is the primary measure of progress.
  + Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
  + Continuous attention to technical excellence and good design enhances agility.
  + Simplicity – the art of maximising the amount of work not done – is essential.
  + The best architectures, requirements, and designs emerge from self-organizing teams.
  + At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behaviour accordingly.

Scrum Framework:

Scrum is a team-based framework to develop complex systems and products.

A diagram of a group of people

Description automatically generated

Made of events and artefacts.

Sprint planning is taking items out from the product backlog to work on.

Order by what’s most important, which creates sprint backlog.

The Three Pillars of Scrum:

* Transparency
  + Everyone presents the fact as is and collectively collaborates for the common organizational object. No one has a hidden agenda,
* Inspection
  + Not done by an inspector, but by everyone on the Scrum Team. The inspection can be done for the product, processes, people aspects, practices.
* Adaptation
  + Adaptation is about continuous improvement, to adapt based on the results of the inspection, everyone should reflect on how to improve.

Scrum Roles:

* Product Owner
  + Key stakeholder who should have a deep understanding of the product and communicates with both the team and other stakeholders.
  + Doesn’t determine who does is in the team / what work is done.
  + Must be available for the team to communicate.
  + One who is overall responsible for the product backlog.
* Scrum Master
  + Ensures the team keeps to the values of Scrum, facilitates meeting, and removes impediments.
  + Cannot dictate who does work.
* Development Team
  + Effectively 3 – 9 people
  + Decide how the work will be done.

The Scrum Team

A group of people on a white background

Description automatically generated

A screenshot of a phone

Description automatically generated

Scrum Workshop

What are requirements:

* A group of tasks or conditions that must be completed to finish the task successfully.

How can we effectively gather requirements:

* Speak to stakeholder / product owner to see what sort of requirements they need within the product.
* Speak to others in the team.
* Communicate early and often.

User Stories

A yellow paper with lines drawn on it

Description automatically generated

* Encourage the team to not collect too many details too early in the process.

User Stories

A green rectangular object with white text

Description automatically generated

A close-up of a sign

Description automatically generated

A close-up of a business card

Description automatically generated

Everyone writes user stories

Three amigos:

* Business – What problem are we trying to solve?
* Development – How might we build a solution to solve that problem?
* Testing – What about this, what could possibly happen?

Magnificent seven

A screenshot of a computer screen

Description automatically generated

A screenshot of a phone

Description automatically generated

A green rectangular sign with white text

Description automatically generated

1 Epic Story

A white text on a black background

Description automatically generated6 Users stories

Acceptance criteria:

A close-up of a note

Description automatically generated

A screenshot of a computer

Description automatically generated

Given a certain scenario, when I do a certain thing, then a certain thing happens.