Software Requirement and Specifications

"SWE 4401"

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2nd year 4th semester

Reading Assignment on

"Fundamentals of Agile Methodology"

Introduction to Agile Principles

FOUR CORE VALUES:

i) Individuals and interactions (over processes and tools)

ii) Working Software (over comprehensive documentation)

iii) Customer collaboration (over contract negotiation)

iv) Responding to change (over following a plan)

12 PRINCIPLES OF AGILE SOFTWARE:

i) Satisfy customers through early and continuous delivery of valuable software.

ii) Even late in development, welcome changing requirements for the customer's competitive advantage.

iii) Deliver working software frequently, with a preference to the shorter timescale.

iv) Business people and developers must work together daily throughout the project.

v) Give the motivated individuals the environment and support they need.

vi) The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

vii) Working software is the primary measure of progress.

viii) The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

ix) Continuous attention to technical excellence and good design enhances agility.

x) The art of maximizing the amount of work not done — is essential.

xi) The best architectures, requirements and designs emerge from self-organizing teams.

xii) At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

☐ Understanding agile values and principles

Q. WHAT IS AGILE?

⇒ Agile is a mindset and philosophy around building products that espouses collaboration, customer-centricity, and expecting and responding to change.

✗ Agile is <u>NOT</u> about speed or velocity. It's neither a methodology nor a framework.

Agile started with the agile manifesto.

Details of the 4 agile values:

i) To be agile means to be all-in on people. The 1st value might be the <u>most ahead</u> of its time. Of the 12 agile principles, at least six involve human relationships.

ii) The 2nd value is probably the <u>most controversial</u> today. What's so great about software that only 'works'? Everyone wants to be a philosopher and empathize with customers, but no one can actually deliver. Getting a minimum viable product out now is better than getting the 'perfect' product out much later. It's not the goal but it delivers value to the customers.

iii) Contract negotiation refers to any agreements involved in the work, internally or externally. This includes any political dealings and vendor paperworks. All this is good but customers should come first.

iv) Following a plan is good, but responding to change is even more valuable. Plans are only as good as their flexibility.

Details of the 12 agile principles:

i) Delivering valuable products and features quickly and regularly helps getting feedback faster to improve and increase value to customers.

ii) Embrace uncertainty. Anticipate and welcome change.
↳ update sprint goals mid-sprint more frequently + celebrate team pivots

iii) Take baby steps. Shipping smaller increments regularly and being able to deploy quickly mitigates risk.
↳ Test how quickly your team can get a change live by making small changes + Break up stories into smaller pieces.

iv) No matter who it is, transparency and collaboration should be day-to-day normalcy for everyone included in the project.
↳ Make planning and roadmap artifacts more accessible so others can follow along with progress and ask questions or provide feedback + Use an open slack channel (or chat tool of choice).

v) A supportive environment will mean different things to different people. It comes down to knowing your team and how to communicate and support the individuals.
   with
This might be the most challenging.
↳ Make work fun + treat people as individuals + establish a compelling vision for your product or program.

vi) Video conferencing doesn't entirely replace in-person interaction. But there are many advantages to remote work too.
↳ Meet in person from time to time + clarify your tone while texting + Don't be shy to jump on a quick call to hash something out in real time.

vii) This principle can feel out of touch in a world where we value customer problem statements, fancy visual frameworks, user research, market research. These are important, but what good are they if we can't help customers with them?

→ Document and plan as you go + prioritize building things that will help customers now.

viii) Agility means that burnouts, late nights and last-minute emergencies should be rare.
↳ Maintaining a constant-pace means the team should slow down, not speed up. + plan ahead and put systems in place that makes it normal to react to change.

ix) This principle doesn't aim for perfection. Excellence in the tech world is a rapidly moving target and to hit it requires "continuous attention".
↳ Host lunch-and-learns and "brown bag" educational opportunities. + Build in time to incorporate tech debt into sprints.

x) Less is more. You spend more time doing only what's necessary and waste less time complicating your processes.
↳ Think about what is needed. Consider MoSCoW. + Determine the simplest solution to the problem and consider the trade-offs.

xi) Principle No. 11 is not about anarchy or some progressive operating model where people form their own clans and do whatever they want. Trust doesn't magically emerge, so the advice is easier said than done.
↳ Create organizations of teams that are motivated and empowered. + create teams that are cross functional to minimize dependencies.

xii) check in regularly with your team and colleagues. + Track next steps when necessary. + Have fun and be genuine.

[] Agile principles in practices

- Unlike waterfall or other traditional project management approaches, agilists deliver early and continuously.

- Agile teams learns something from the customer after each delivery.
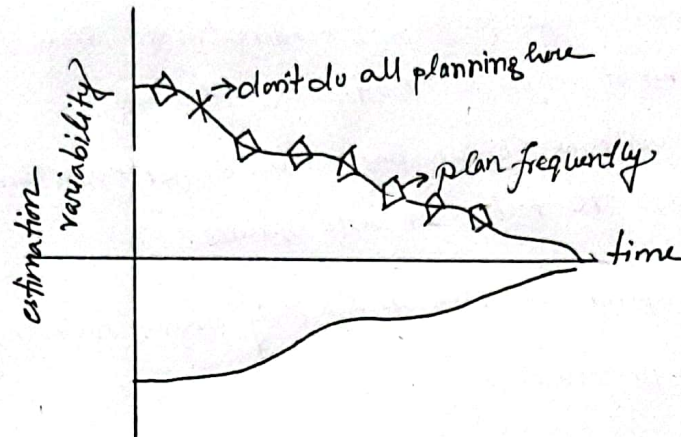
- The purpose of each sprint is to deliver a Done, usable increment of work at least once per Sprint.

- What matters is that collaboration is critical for all agile teams.

- Agile teams test the work as it goes and has a series of concrete steps to take.