

UNIT-2

Agile process model : The term agile means "the ability of response to changes from requirements, technology or"

Agility is a dynamic, context specific, aggressively change embracing, and growth oriented

we use this process when we want to change the project quickly. It is used when the customer requirements frequently changes. The changing or adopting can be done easily quickly.

- It refers to the software development approach based on iterative development
- Agile process breaks tasks into small iterations of part. don't involve in long term planning

- if any changes are needed it is applied in the next iterations

- modularity
- iterative

- Time bounded

- Adaptive

- Incremental

→ First we concentrate on the core feature and its modules are added later one by one module is added

Agile principles

- ① Customer satisfaction :- Our highest priority is to satisfy the customer through early and continuous delivery of valuable software
- ② Self organizing team : the best architecture requirements, and design emerge from the self organizing teams
- ③ Encourage face to face interaction :- the most efficient and effective method of conveying information to and within a development team is face to face ~~rate~~ conversation
- ④ Technical Excellence : Continuous attention to the technical excellence and good design enhance agility
- ⑤ Work together : Business people and developers must work together daily throughout the project

⑥ Build Projects and Give environments

Build projects around motivated individuals
Given them the environment and support
they need and trust them to get the job done

⑦ keep work simple

working the art of
maximizing the amount of work not done
is essential

⑧ Measure of progress

working software
is the primary measure of progress

⑨ Reflect and improve

continuous At intervals, the team reflects
on how to become more effective, then does
and adjusts the behaviour accordingly

⑩ Accept changes in requirements

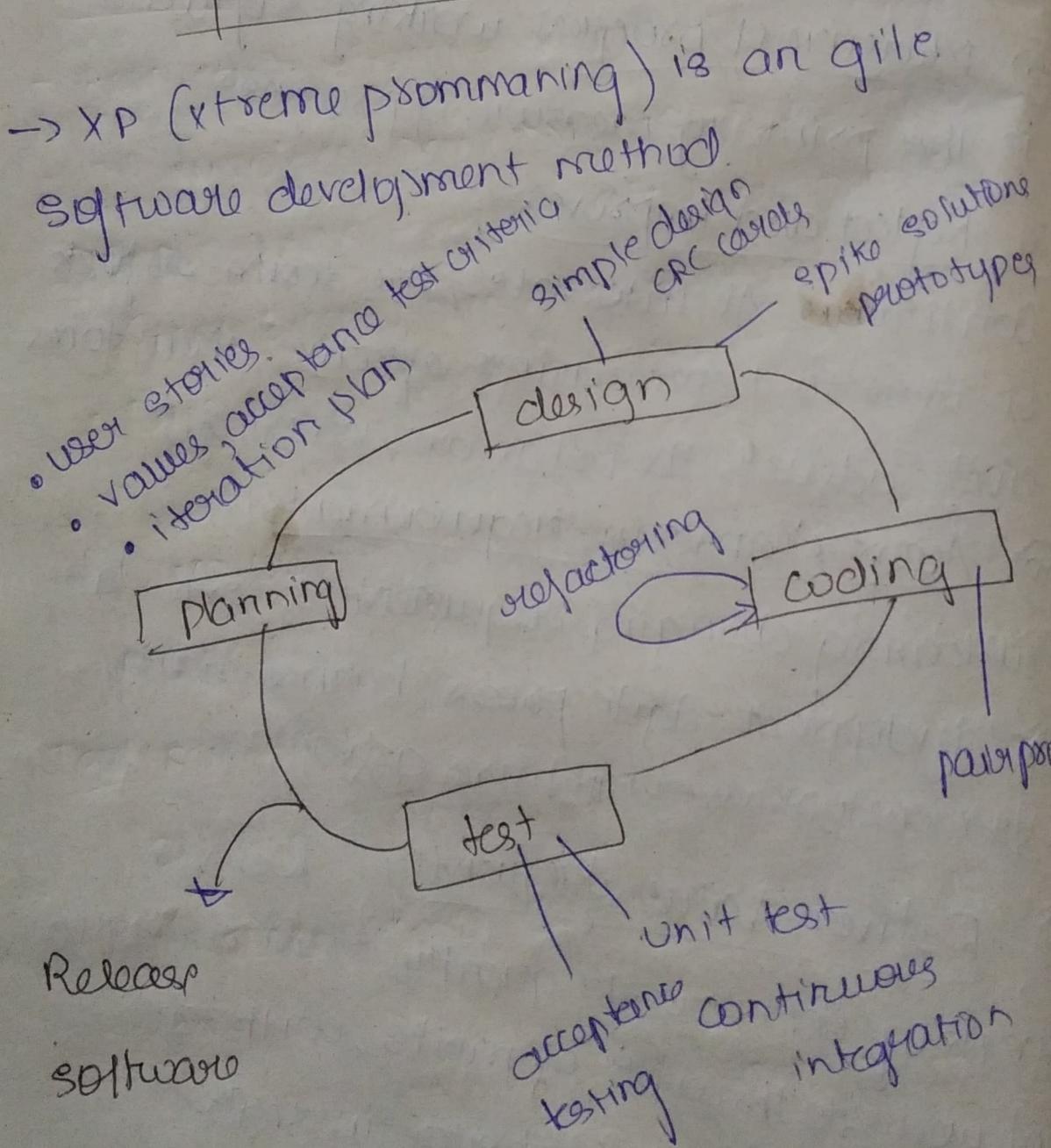
welcoming changing requirements, even late
in development. Agile process harness change
for customer's competitive advantage

⑪ Deliver Value frequently

Deliver
working software frequently, from a couple
of weeks to the couple of months, with a
preference to the shorter timescale

⑯ Sustainable development: Agile process must promote sustainable development. The sponsors, developers and users should be able to maintain a constant pace indefinitely.

EXTREME PROGRAMMING



Planning:

- Begins with the set of customer stories that describes required features and functionality
- each story is written by the customer and placed on an index card
- Members of each XP team access each index card and assign a cost.
- if the story requires more than three development weeks, the customer is asked to break the stories and again repeat the process
- just high values and highest stories are implemented immediately
- remaining all stories are implemented

n. Design: it follows KIS (Keep it simple)

principle

- A simple design is done over complex representation
- The design of extra functionality is discouraged

- XP used CRC cards is an effective mechanism thinking about the software in an object oriented classes
- if the design is complex then spike solution i.e immediate creation of prototype

Coding:

- For each story - a unit test is created
- It involves pair programming. two people work together at one problem (two heads are often better than one)
 - One may think on particular portion
 - other may think on coding standards
- Once created all the unit tests are integrated

Testing

- testing is done
- if acceptance test is passed it is released
- otherwise repeated the same process

Agile

Advantages

- product is delivered fast and frequently
- Even late changes are welcomed
- Regular adaptation to changing circumstances
- It is the better than ~~than waterfall~~ Revolutionary, etc

disadvantages

- Not used for small development projects
- It requires expert project member to take decision in the meeting
- cost is more

extreme programming

advantages

- clear code
- stable system
- customer satisfaction
- less documentation
- No overtime
- Fast MVP delivery

disadvantages

- time wast
- No enough documentation
- pair programming is longer
- code over design
- stressed

SCRUM

- Scrum is framework that uses agile process model to implement
- It is lightweighted, simple to understand difficult to master

SCRUM principles

Working teams :- with maximizing communication, minimizing overhead, and informal knowledge

Process adaptability :- adaptable to technical and business changes

increments :- The process yields the frequent software increments that are inspected

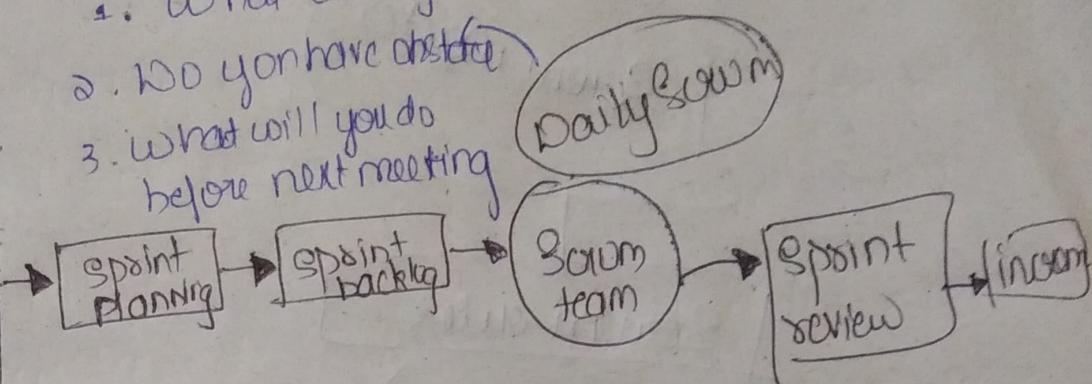
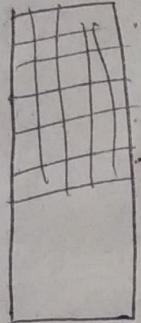
adjusted, tested, documented, and built on

testing :- constant testing and documentation

SCRUM FRAMEWORK

every 24 hours : 15 min daily meeting

- 1. What did you do since last scrum meet
- 2. Do you have obstacles
- 3. What will you do before next meeting



Product Backlog

Backlog: prioritized list of project requirement or features that provide business values. Items can be added to backlog at any time

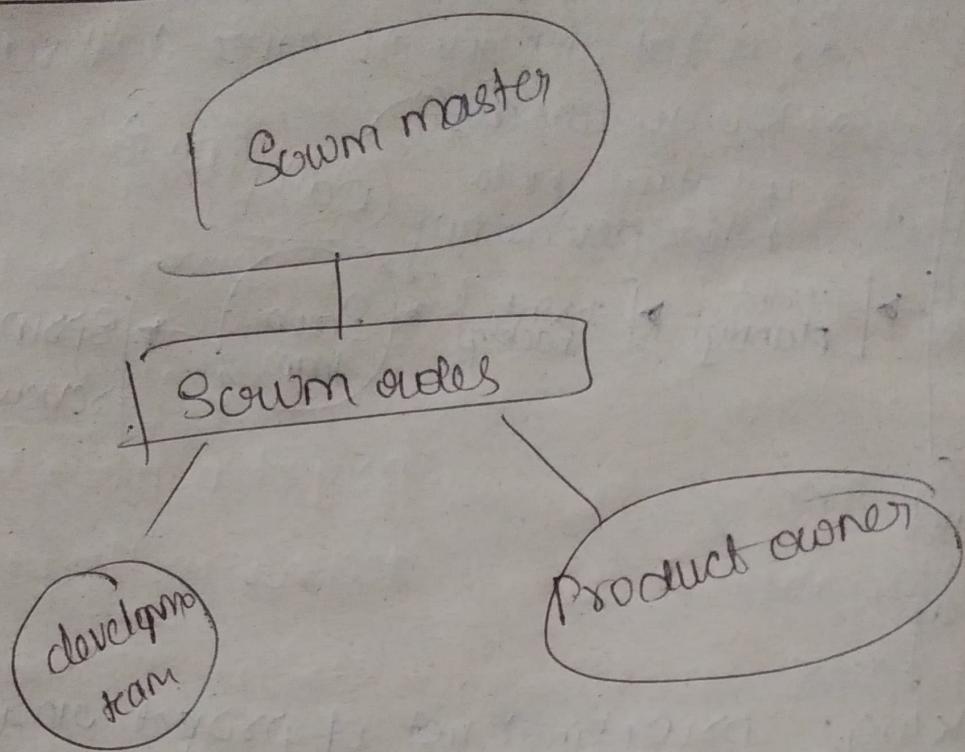
Sprints: sprint is a unit work that must be done for every 1 week or 2 weeks typically 30 days

Scrum meeting (15 minutes)

- what did you do since last meeting
- what obstacles are you considering
- what do you plan to accomplish next team meeting (what will you do)

SCRUM MASTER

A team leader



Roles of Scrum master

- Leads meeting and assesses the responses from each person
- Access the development team and product owner
- Facilitator of Scrum events
 - ~~sprint~~ sprint planning, sprint review, etc
 - remove obstacles
- He is not a manager / technical designer
- He is not a decision maker

- Responsibility
- Humble
- Collaborative
- Committed
- Influential
- Knowledgeable