COURSE NAME – ADAPTIVE SOFTWARE ENGINEERING

COURSE CODE – 23CI2001

TOPIC: INTRODUCTION TO SCRUM, KANBAN

Advantages

Simple and easy to understand and use

Specific deliverable and review process

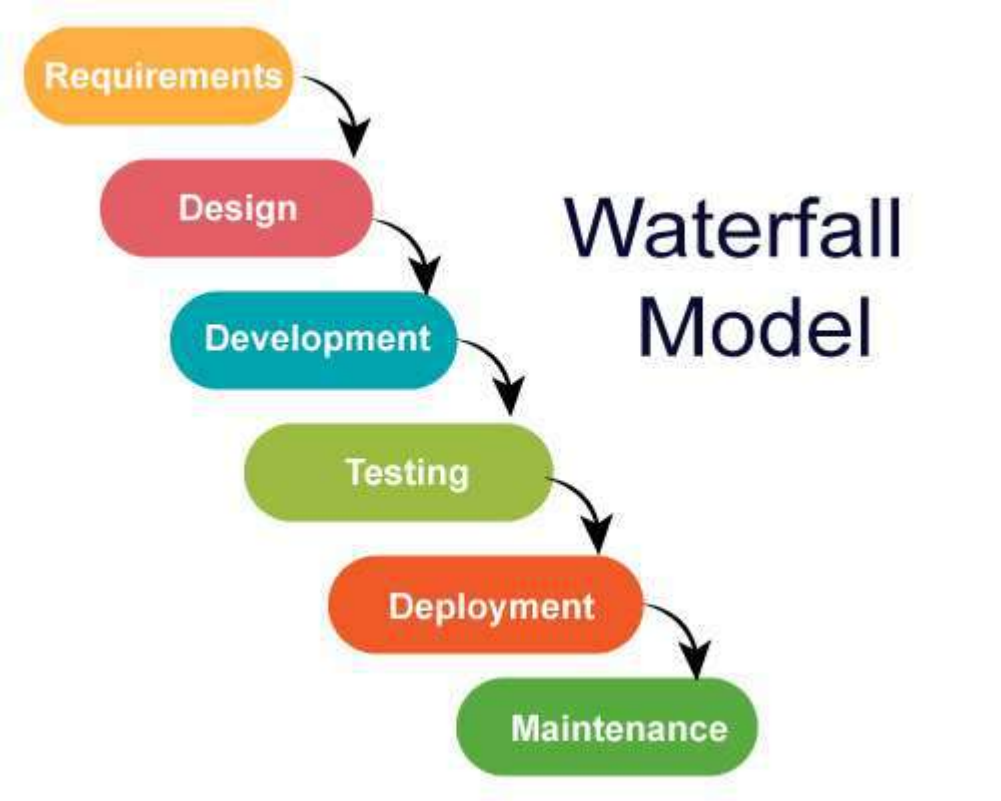
Phases do not overlap

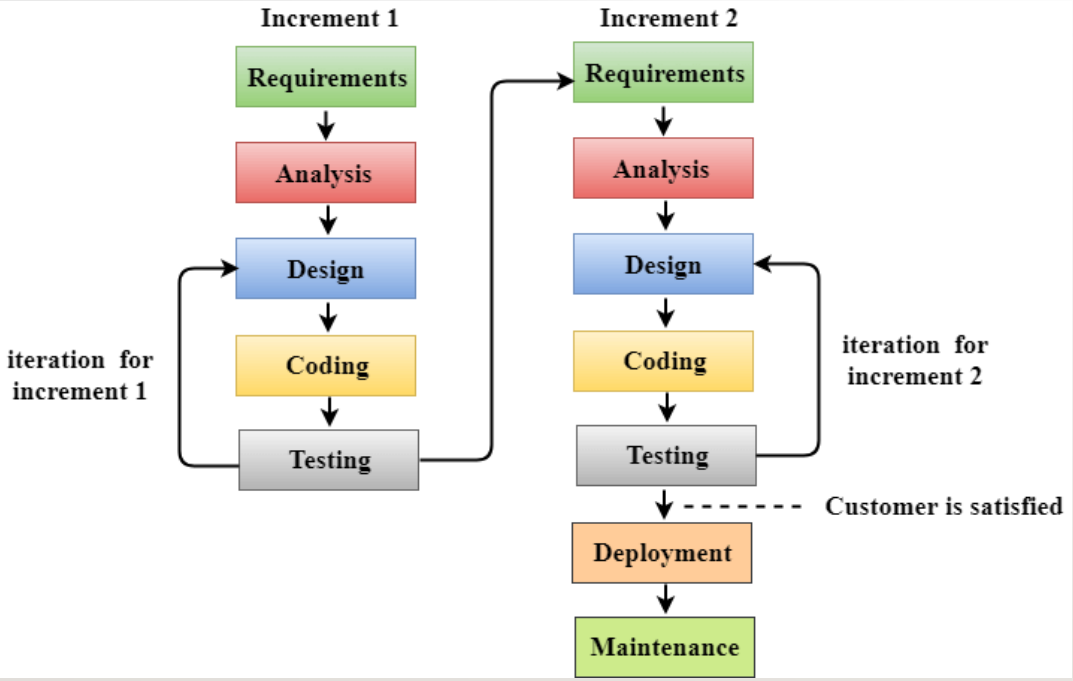
Disadvantages

Not suitable for changing requirements

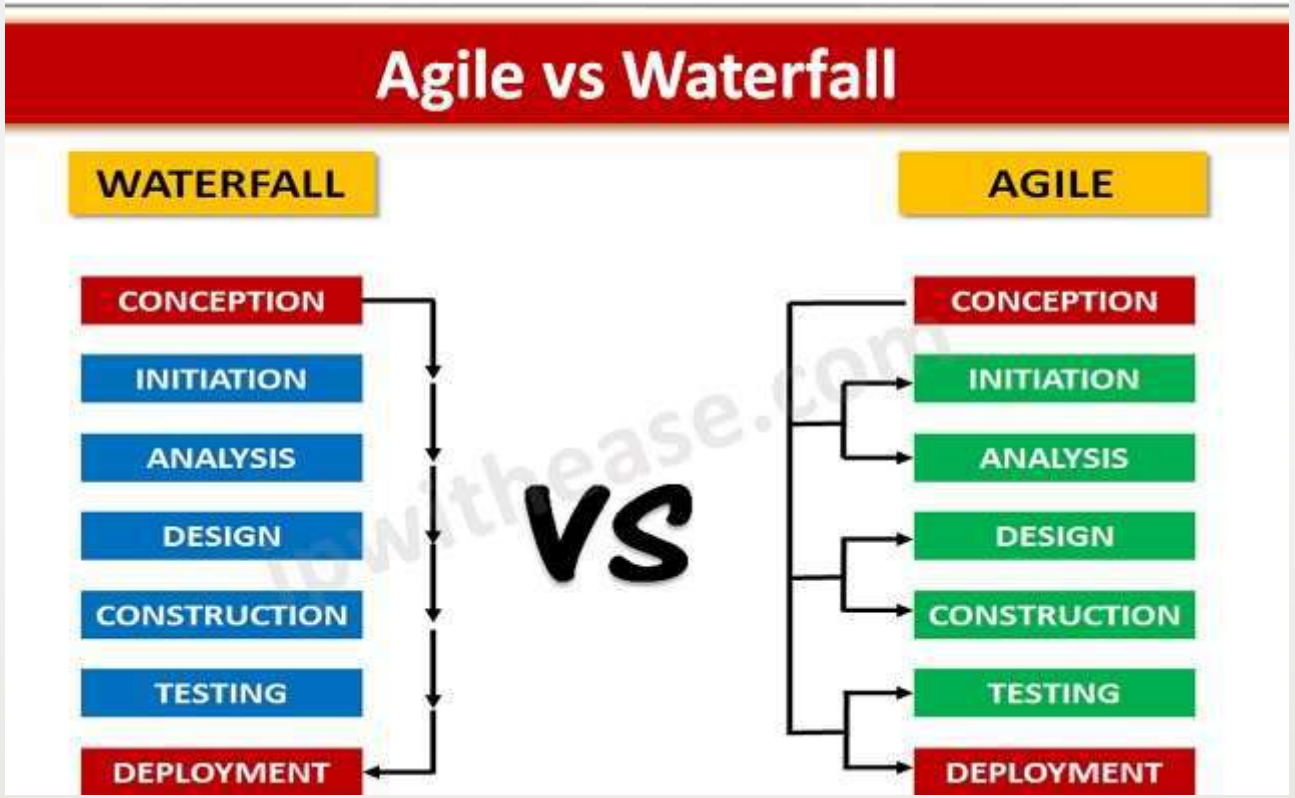
Unexpected results

Time to market is high





•Agile is a philosophy, i.e., a set of values and principles to make a decision for developing software.
•Agile is based on the iterative-incremental model. In an incremental model, we create the system in increments, where each increment is developed and tested individually.



AGILE

It takes an incremental and continuous iteration approach

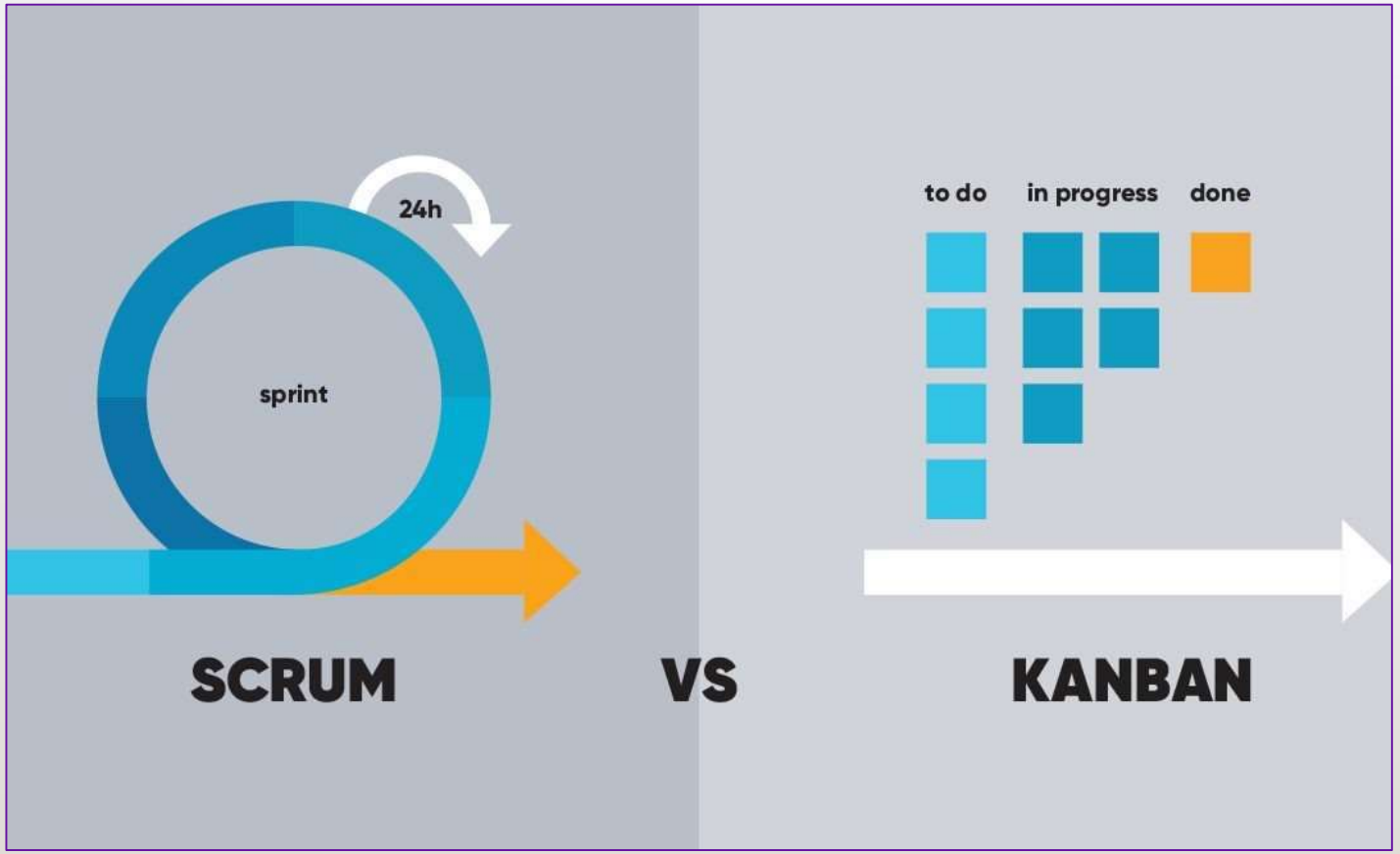
SDLC

It is sequential in order

Parametric comparison of AGILE and SDLC

PARAMETER	AGILE	SDLC
Classification	Sprints	phases
Approach	incremental	Sequential
Flexibility	flexible	Regid
Testing	After each sprint	After final phase
Focus	Satisfactory	Project completion
Managerial need	Team	Project manager
Suitability	Many Small projects	Single big project
Requirements	Day today	No room for change

AGILE TYPES



SCRUM

SCRUM DEFINITION:

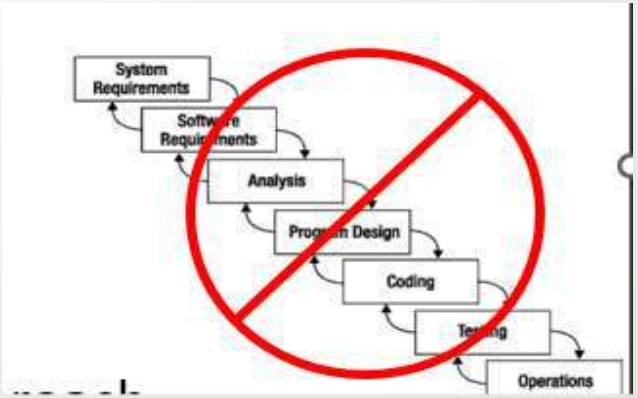
- *Scrum is an IID method that emphasizes a set of project management values and practices, rather than those in requirements, implementation, and so on. As such, it is easily combined with or complementary to other methods.*
- *A key Scrum theme is its emphasis on empirical rather than defined process.*
- Scrum appears simple yet has practices that deeply influence the work experience and that capture key adaptive and agile qualities.

SOME KEY PRACTICES INCLUDE:

- *self-directed and self-organizing team*
- *no external addition of work to an iteration, once chosen*
- *daily stand-up meeting with special questions*
- *usually 30-calendar day iterations*
- *demo to external stakeholders at end of each iteration*
- *each iteration, client-driven adaptive planning*

What is Scrum?

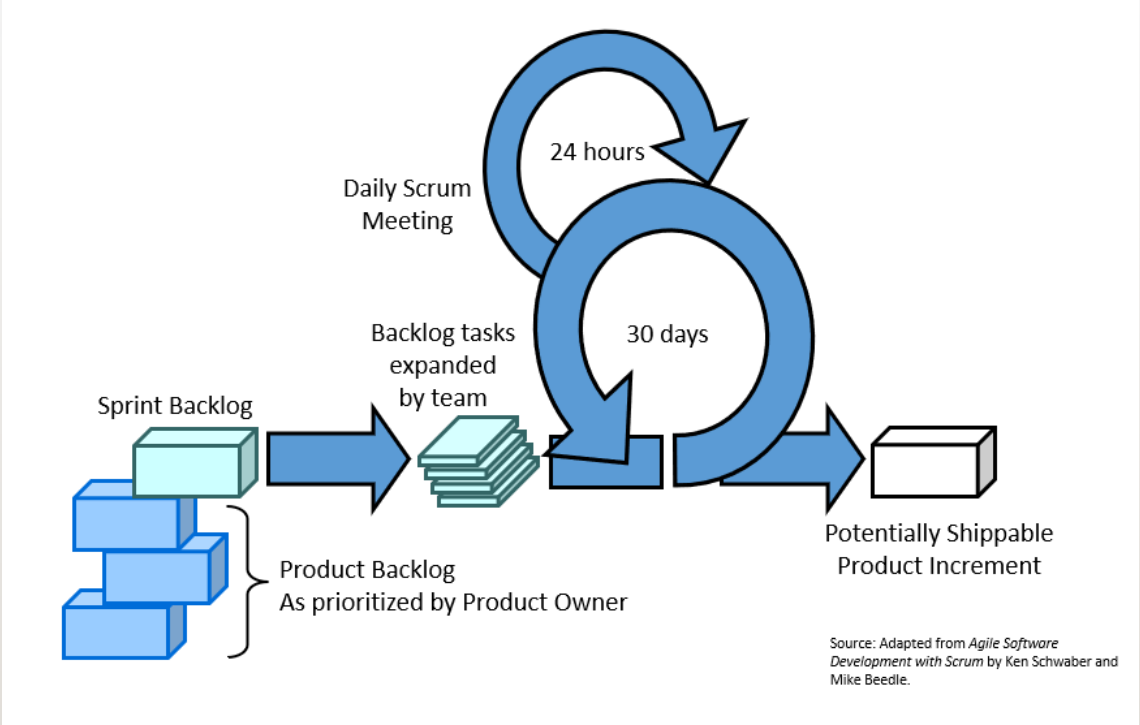
- Is an agile, lightweight process
- Can manage and control software and product development
- Uses iterative, incremental practices
- Has a simple implementation
- Increases productivity
- Reduces time
- Embraces the opposite of the waterfall approach…



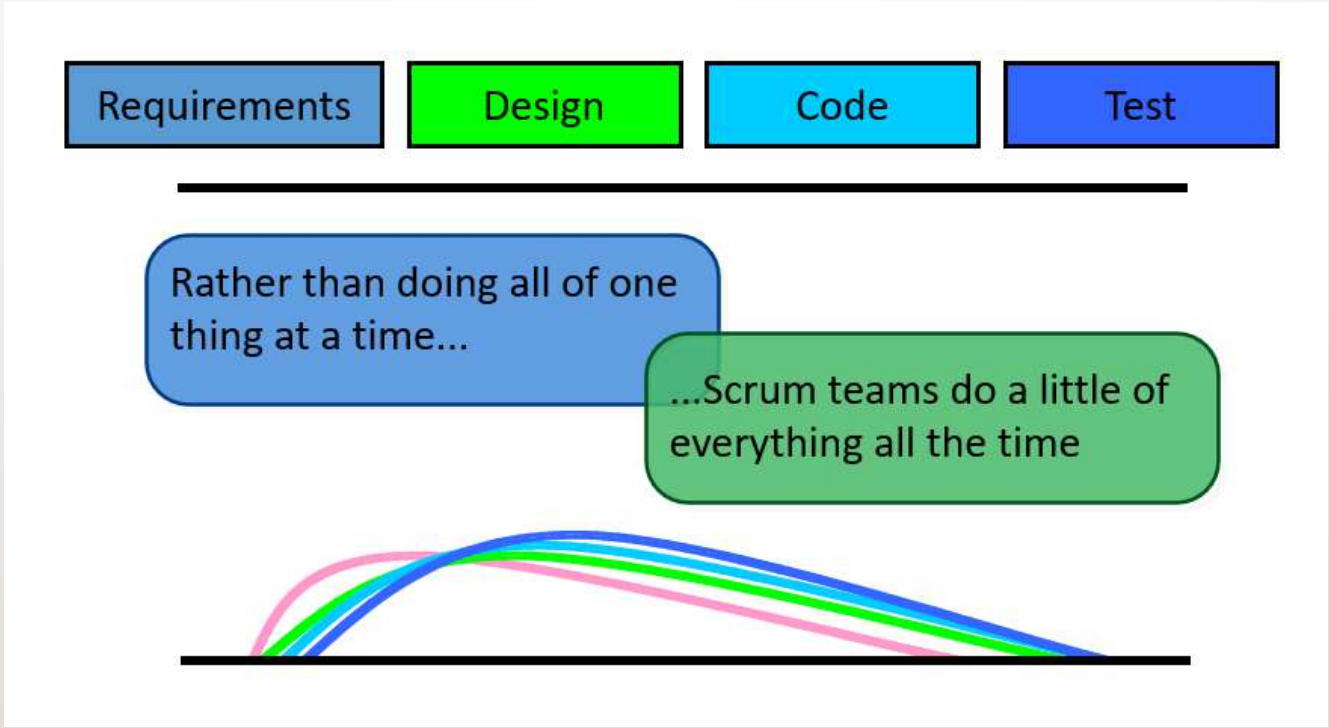
SCRUM ORIGINS:

- Jeff Sutherland
  - Initial scrums at Easel Corp in 1993
  - IDX and 500+ people doing Scrum
- Ken Schwaber
  - ADM
  - Scrum presented at OOPSLA 96 with Sutherland
  - Author of three books on Scrum
- Mike Beedle
  - Scrum patterns in PLOPD4
- Ken Schwaber and Mike Cohn
  - Co-founded Scrum Alliance in 2002, initially within Agile Alliance

SCRUM AT A GLANCE:



SEQUENTIAL VS. OVERLAP:



SCRUM FRAMEWORK

Roles

- Product owner
- Scrum Master
- Team

Ceremonie

- Sprint Planning
- Sprint Review
- Sprint Retrospective
- Daily Scrum meeting

Artifacts

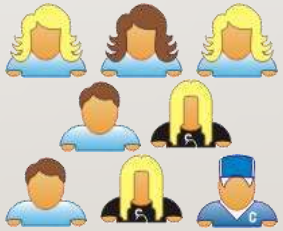
- Product backlog
- Sprint backlog
- Burndown charts

SCRUM ROLES:

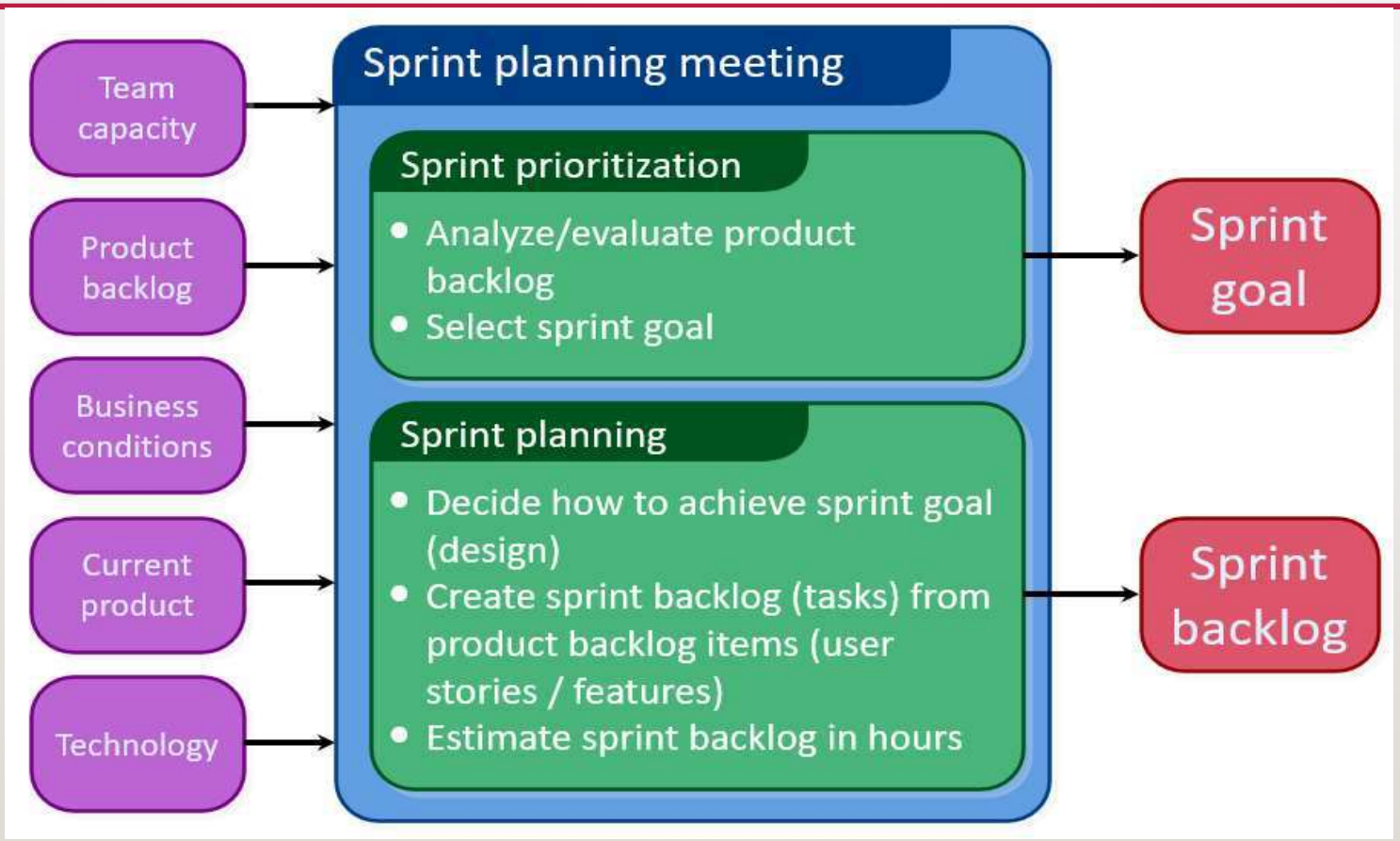
- Product Owner
  - Possibly a Product Manager or Project Sponsor
  - Decides features, release date, prioritization

- Scrum Master
  - Typically a Project Manager or Team Leader
  - Responsible for enacting Scrum values and practices
  - Remove impediments / politics, keeps everyone productive

- Project Team
  - 5-10 members; Teams are self-organizing
  - Cross-functional: QA, Programmers, UI Designers, etc.
  - Membership should change only between sprints



SPRINT PLANNING MEETING:



DAILY SCRUM MEETING:

- Parameters
  - Daily, 15 minutes, Stand-up
  - Anyone late pays a $1 fee
- Not for problem solving
  - Whole world is invited
  - Only team members, Scrum Master, product owner, can talk
  - Helps avoid other unnecessary meetings
- Three questions answered by each team member:
  1. What did you do yesterday?
  2. What will you do today?
  3. What obstacles are in your way?

SCRUM'S ARTIFACTS:

- Scrum has remarkably few artifacts
  - Product Backlog
  - Sprint Backlog
  - Burndown Charts

- Can be managed using just an Excel spreadsheet
  - More advanced / complicated tools exist:
    - Expensive
    - Web-based – no good for Scrum Master/project manager who travels
    - Still under development

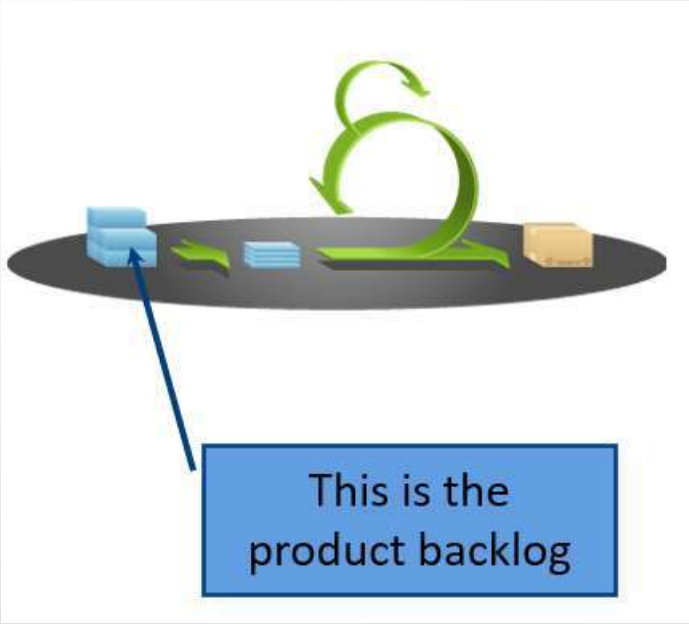
PRODUCT BACKLOG:

- The requirements

- A list of all desired work on project
- Ideally expressed as a list of user stories along with "story points", such that each item has value to users or customers of the product

- Prioritized by the product owner

- Reprioritized at start of each sprint



USER STORIES:

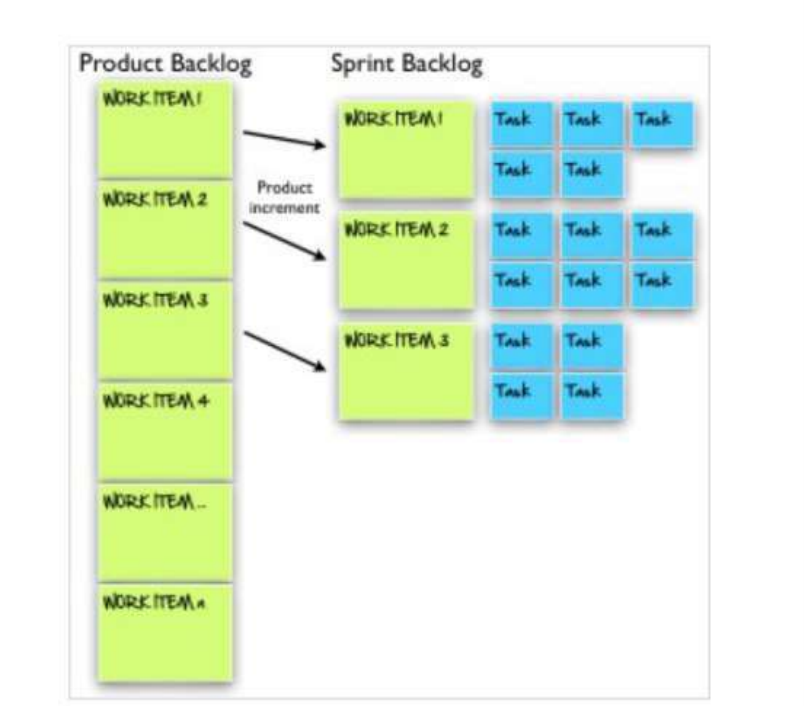
- Instead of Use Cases, Agile project owners do "user stories"
  - **Who** (user role) – Is this a customer, employee, admin, etc.?
  - **What** (goal) – What functionality must be achieved/developed?
  - **Why** (reason) – Why does user want to accomplish this goal?

As a [user role], I want to [goal], so I can [reason].

- Example:
  - "As a user, I want to log in, so I can access subscriber content."

- **story points**: Rating of effort needed to implement this story
  - common scales: 1-10, shirt sizes (XS, S, M, L, XL), etc.

PRODUCT AND SPRINT BACKLOG



THE SCRUM MEETING: DETAILS

- **The Scrum Meeting—or scrum**—is the heartbeat of Scrum and the project. Each workday at the same time and place, hold a meeting with the team members *standing* in a circle, at which time the same special questions are answered by each member:

1. What have you done since the last Scrum?
2. What will you do between now and the next Scrum?
3. What is getting in the way (blocks) of meeting the iteration goals?
4. Any tasks to add to the Sprint Backlog
5. The last question provides an efficient forum for a continuously improving and learning group

WORK PRODUCTS:

- In addition to the work products illustrated , Scrum allows any other work products of value to the project.
- **Product Backlog**
- **Sprint Backlog**
- **Sprint Backlog Graph**

Other Practices and Values

- **Workers daily update the Sprint Backlog**
- **No PERT charts allowed**
- **Scrum Master reinforces vision**
- **Replace ineffective Scrum Master**
- **VALUES: Commitment, Focus, Openness, Respect, Courage**

- Define SCRUM.

2. Describe the method Overview of scrum.
3. Sketch and explain Lifecycle of scrum.
4. Explain Work products, Roles, and Practices.
5. List out the advantages of Scrum Meeting.
6. List out the values of scrum.

THANK YOU

(DEEMED TO BE UNIVERSITY)

Team – ADAPTIVE SOFTWARE ENGINEERING