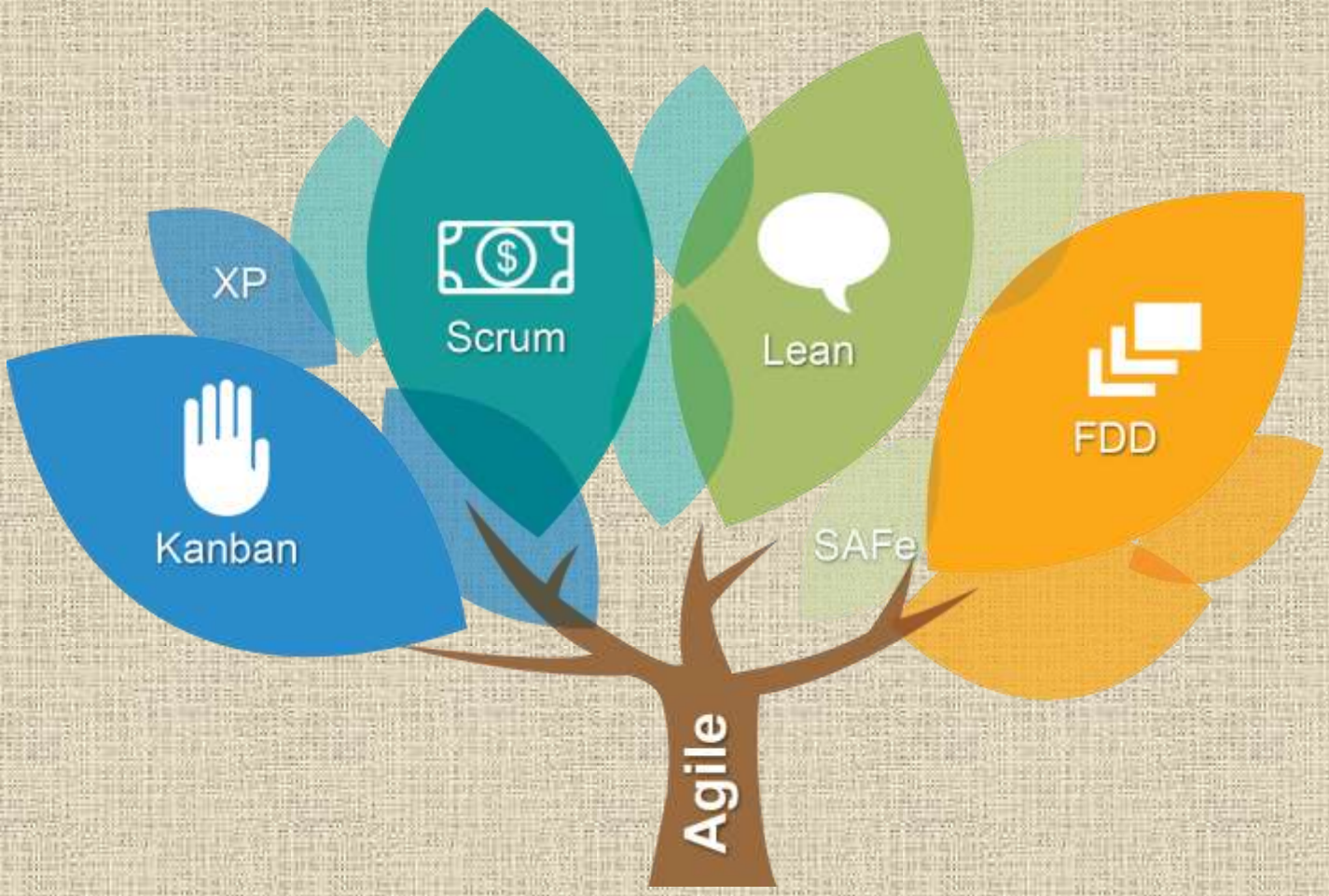
PMI-ACP
Ultra Supreme Action Guide



PMI- ACP

SRIRAM

Preface

I have been involved in IT Software development since 1997. I have a unique combination of process, technical and industrial skills. As a Certified Project Management Professional, I have expert level of knowledge in agile and technology practices such as java, hadoop, SharePoint & .Net with this combination I can help process and technology people, understand the world. Worked in India, USA, and UK which creates a global experience and awarded as a best PM professional. Dedicated "PMI-ACP Ultra Supreme Action Guide" book to my Agile Guru's, my family members, friends and Project Management professionals. This Guide made handy and recollect everything at one shot.

Organization of this Book

PMI-ACP Ultra Supreme Action Guide is designed to make you to success in the Agile Practitioner interview by providing valuable questions on various domain such as Agile Framework, Value Driven Delivery, Stakeholder Engagement, Team Performance, Adaptive Planning, Problem Detecting & Resolution, Continuous Improvement along with the practice questions to achieve PMI-ACP Certification. The progressive elaboration of Project Management knowledge towards an Agile is awesome. Enjoy Reading!

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Agile Gurus

Ken Schwaber

Jeff Sutherland

Mike Cohn

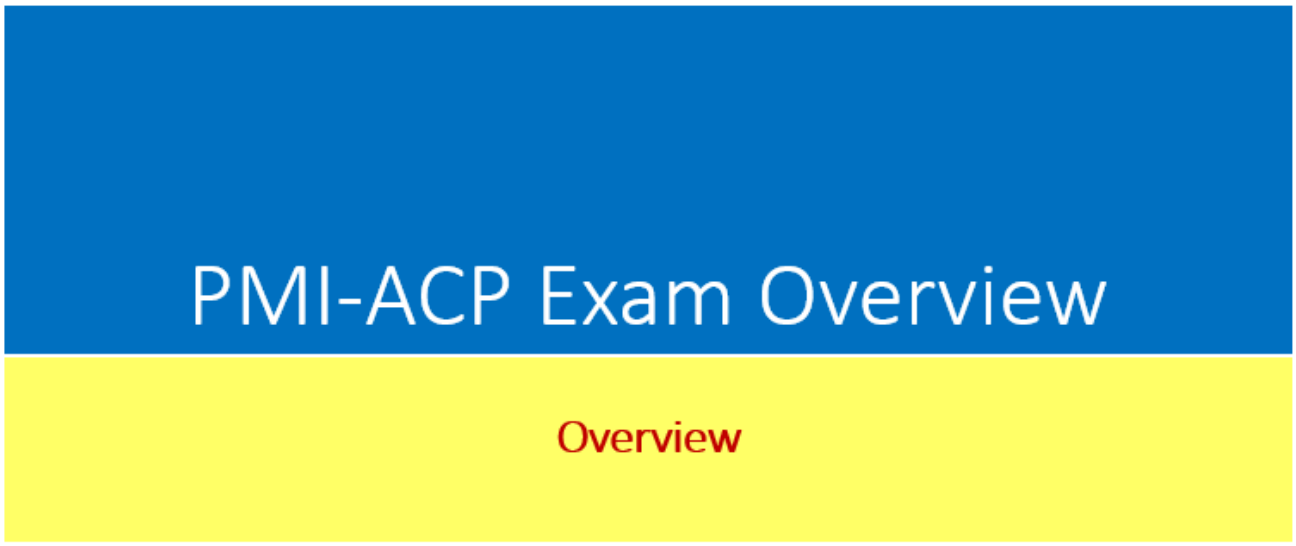
Nanda Lankalapalli

Sriram Balasubramanian

Lesson 1 PMI-ACP INTRODUCTION

Topics to Discuss

- PMI-ACP Exam Overview
- PMI-ACP Examination Details
- PMI-ACP Examination Domains, Tools & Techniques, Knowledge & Skills



PMI-ACP Exam Overview

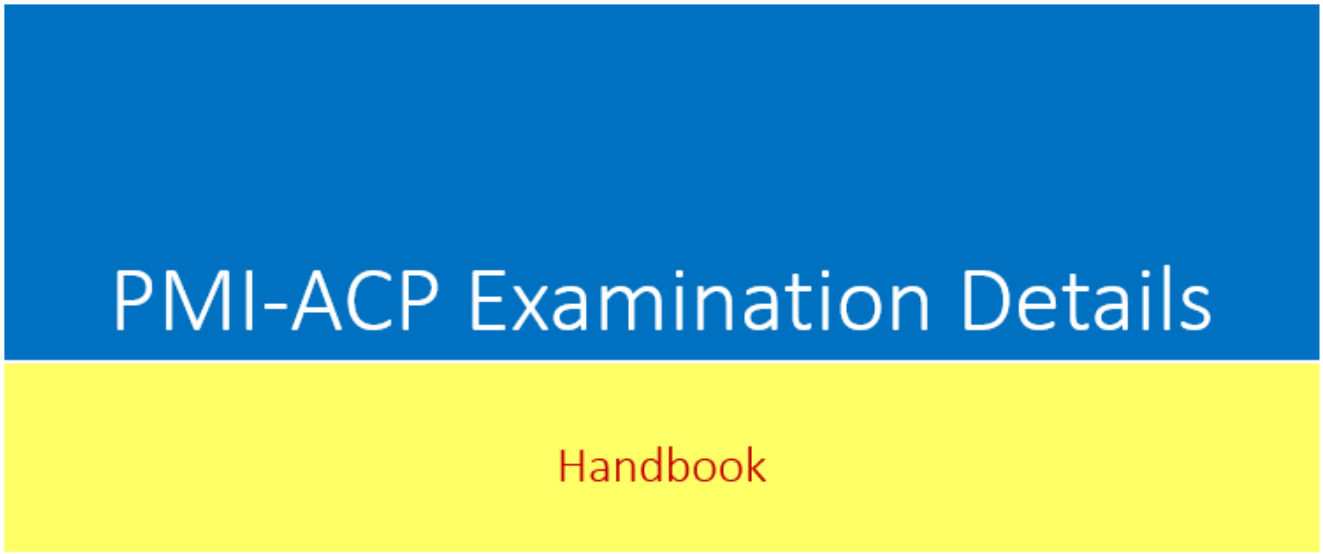
Agile is a topic of growing importance in project management. The marketplace reflects this importance, as project management practitioners increasingly embrace agile as a technique for managing successful projects.

The PMI-ACP certification recognizes an individual's expertise in using agile practices in their projects, while demonstrating their increased professional versatility through agile tools and techniques.

In addition, the PMI-ACP certification carries a higher level of professional credibility as it requires a combination of agile training, experience working on agile projects, and examination on agile principles, practices, tools, and techniques. This global certification also supports individuals in meeting the needs of organizations that rely on project practitioners to apply a diversity of methods to their project management.

PMI-ACP Exam Prep Topics

- PMI-ACP Course Introduction
- Domain – I Agile Framework
- Domain – II Value Driven Delivery
- Domain – III Stakeholder Engagement
- Domain – IV Boosting Team Performance Practices
- Domain – V Adaptive Planning
- Domain – VI Problem Detection and Resolution
- Domain – VII Continuous Improvement



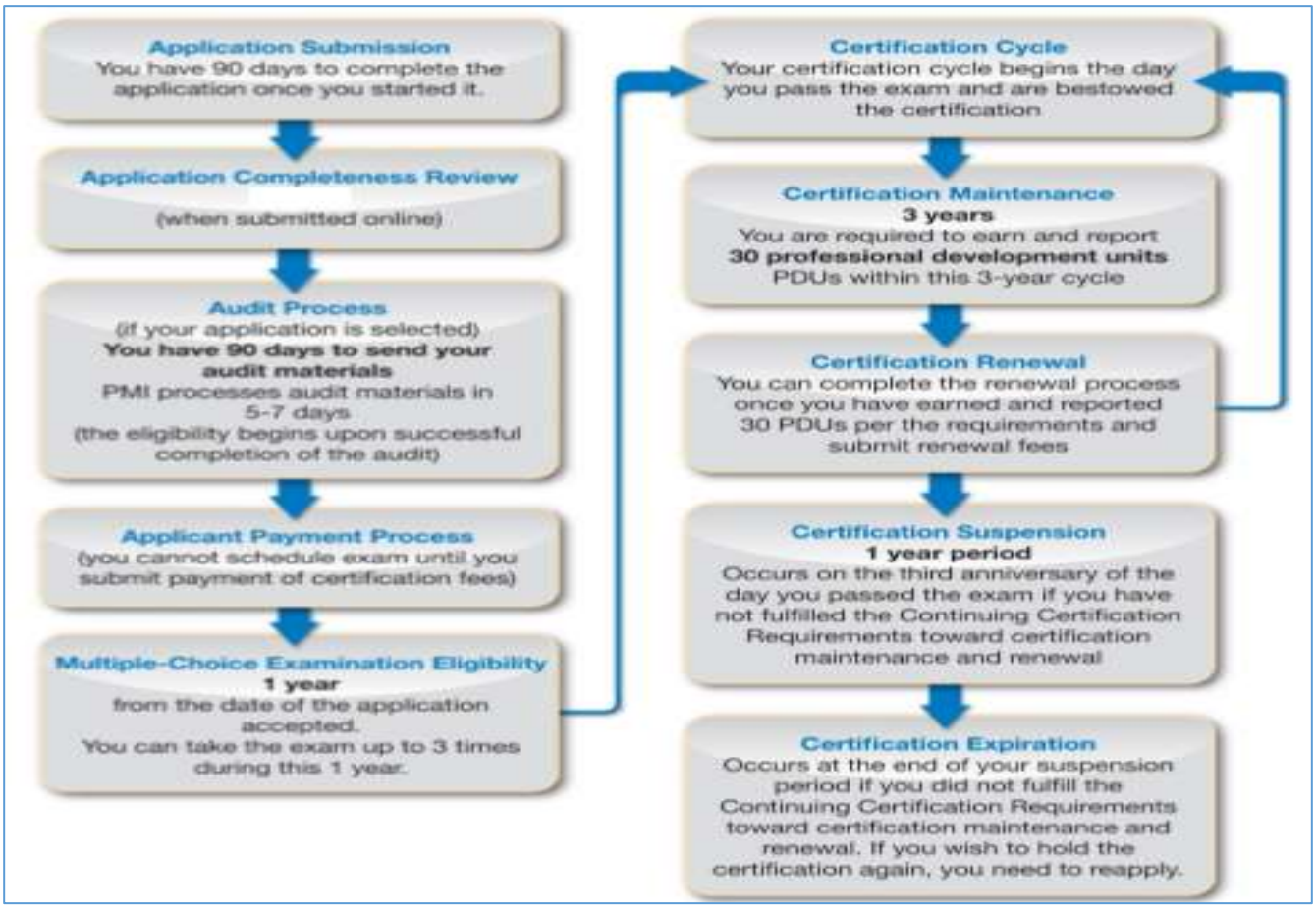
PMI-ACP Exam Prerequisite

- 2,000 hours of general project experience
- PMPs and PgMP qualify for this requirement
- 1,500 hours working on agile project team or agile methodologies
- 21 contact hours of training in agile practices
- Yes, this course satisfies this objective

PMI-ACP Exam Fees

- PMI Member: $435
- Non-member: $495
- Cost to join PMI: $129 plus $10 application fee

PMI-ACP Certification Process



PMI-ACP Application Process

- 90 days to complete the application once started
- PMI reviews your application (up to 10 days)
- Pay for the exam
- • Potential audit – 90 days max to complete
- Exam qualification – 1 year to complete exam
- Certification cycle
    - 3-year cycle
    - 30 PDUs needed on agile

PMI-ACP Exam Details

- Total questions: 120
    - 100 scored test questions
    - 20 unscored test questions
- Total Duration: 3 hours

PMI-ACP Exam Blue Print?

Domain	Percentage of Items on the Test
Domain I. Agile Principles and Mindset	16%
Domain II. Value-driven Delivery	20%
Domain III. Stakeholder Engagement	17%
Domain IV. Team Performance	16%
Domain V. Adaptive Planning	12%
Domain VI. Problem Detection and Resolution	10%
Domain VII. Continuous Improvement (Product, Process, People)	9%
Total	**100%**

PMI-ACP Test Center Details

- **Computer-Based Test (CBT)**
- **Paper-Based Test (PBT)**
    - **At least 300 Km from a Prometric CBT site**
    - **PBT's must have at least 10 participants**

How to Schedule PMI-ACP CBT Exam?

- **Schedule your appointment online at the Prometric website.**
- **Select Schedule my test.**
- **Select your geographical location from the dropdown menu, and click Next.**
- **Read through the examination information presented on your screen, and click Next.**
- **Read through and agree to the Policies and Data Privacy Notice**
- **Enter your unique PMI Eligibility ID (the number ending with an "E" located on your scheduling notification) and the first four letters of your last name (as they appear on your government-issued identification). Click Next.**
- **Use the tool provided to search for testing sites in your area. Select Schedule an Appointment.**
- **Locate and select your exam date and time. Available dates will appear in blue on the calendar, and dates with no appointments available will be in grey. Select your date from the calendar provided, and then your time. Click Next.**

- **Confirm your contact information and provide a valid email address. Please note, the email address provided will be the email to which your examination confirmation will be sent. Once your information is entered and confirmed, click Next.**
- **Review your final appointment details, and then click Complete Appointment. Your appointment will not be scheduled until you click Complete Appointment.**
- **Your examination confirmation, along with your 16 digit unique confirmation number, will be displayed. This information will also be sent via email to the address provided.**
- **If you qualified to take a paper-based examination, you will not have to do anything to schedule a PBT appointment after you have successfully submitted your examination payment. Candidates sitting for a paper-based administration submit their examination registration along with the examination payment. Once your payment is submitted, you will receive a confirmation notice confirming the details of the event you have registered for.**
- **Approximately 20 days before the date of the event, you will receive an additional notification containing your final testing site instructions. This confirmation will containing your eligibility dates, your examination date and location, your arrival times, information on what to bring to the testing site and a contact person.**

Rescheduling | Cancelling PMI-ACP Exam

- **Within 30 days: $70**
- **Within 2 days: Forfeit Fee**
- **No-show is a forfeiture**
- **Emergencies: PMI will determine if the emergency qualifies**
    - **Work emergencies don't qualify as an emergency**
    - **Personal emergencies are only considered**

PMI-ACP Random Audits

- **You'll mail to PMI:**
- **Copies of your diploma/global equivalent**
- **Signatures from your supervisor(s) or manager(s) from the project(s) recorded in the experience verification section of the application**
- **Copies of certificates and/or letters of registration, from the training institute(s) for each course recorded on the application to meet the required contact hours of training in agile practices**

PMI-ACP Testing Center Details

The following are acceptable forms of government-issued identification:

- **Valid driver's license**
- **Valid military ID**
- **Valid passport**
- **Valid national identification card**

The following are acceptable forms of secondary identification:

- **Valid employee ID**
- **Valid credit card with signature**
- **Valid bank (ATM) card**

The following are not acceptable forms of identification:

- **Social Security cards**
- **Library cards**

PMI-ACP Testing Center Process

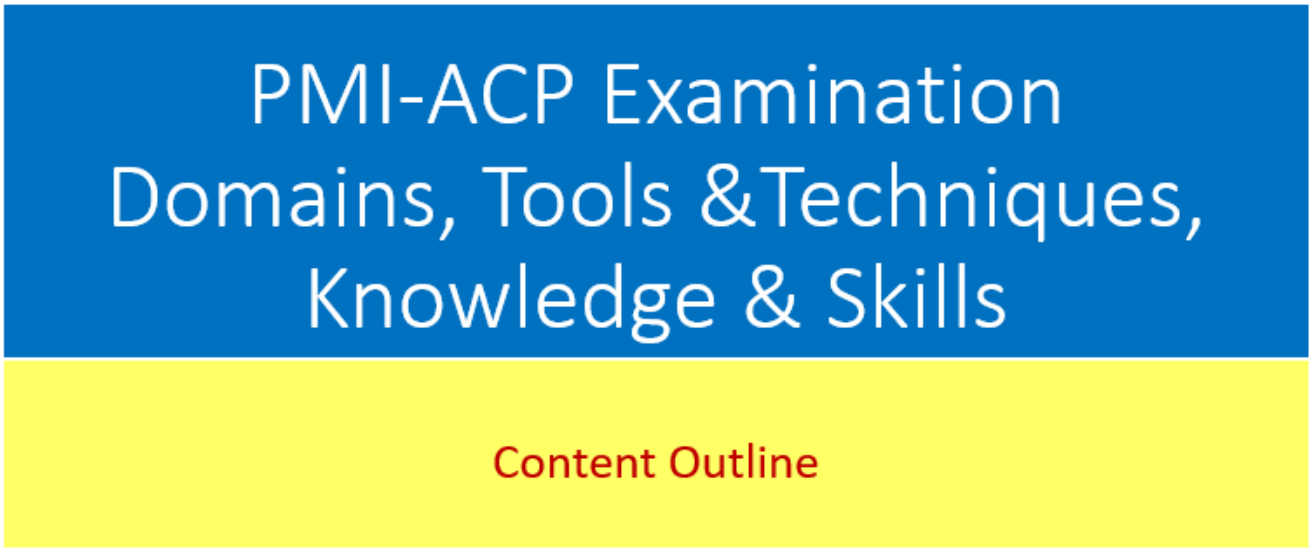
- **Arrive 30 minutes before the exam starting time**
- **You will be assigned a locker for your belongings**
- **Nothing can go into the testing center with you**
- **Sweaters and coats can be worn, but not removed**
- **The Testing Center Administrator will ask you to remove your pockets and roll up your sleeves, and will scan you with a metal detecting wand**
- **Booklet of scratch paper and two pencils or Dry erase board and market**
- **Calculator (Available in Exam Software)**
- **Ear Plugs or Headphones available**

PMI-ACP Testing Center Details

- Can take a break
- Cannot access locket
- No Pause in the exam timer
- You can get booted for: -
  - Disruptions
  - Trying to cheat
  - Trying to keep scrap paper (Even Tearing)
  - Eating or drinking in testing room
  - Attempting to tamper with computer
  - Being a moron

PMI-ACP Examination Report

- CBT report the Pass / Fail immediately after survey
- PMI defines the level of "Proficiency" as follows: -
  - Proficient - Indicates performance is above the average level of knowledge in this domain
  - Moderately Proficient - Indicates performance that is at average level of knowledge in this domain
  - Below Proficient - Indicates performance is below the average level of knowledge in this domain
  - PMI does not say what the passing score is



Value Driven Delivery

Domain	Tools & Techniques	Knowledge & Skills
Value Driven Delivery	ROI, NPV, IRR Agile Earned Value Management (EVM) Product Roadmap Value Stream Mapping WIP Limits Relative Prioritization Risk adjusted backlog Cumulative flow diagrams Task| Kanban boards Chartering Customer valued prioritization Risk burndown graphs	Prototypes, Simulations, demonstrations Incremental delivery Prioritization Project and Quality standards Agile Contracting Agile Accounting System Thinking Variations in Agile Methods Value based analysis

Stakeholder Engagement

Domain	Tools & Techniques	Knowledge & Skills
Stakeholder Management	Wireframes Servant leadership User Stories | Backlog Conflict Resolution Agile Modeling Velocity Information radiators Distributed teams Personas Burn down |up charts Story Maps Negotiation	Incorporating stakeholder values Communication management Leadership tools and techniques Stakeholder management Active listening Facilitation methods Globalization, culture and team diversity Vendor management Participatory decision models

Team Performance

Domain	Tools & Techniques	Knowledge & Skills
Team Performance	Daily Standups Co-located teams Team Space Agile Tooling Adaptive Leadership Emotional Intelligence	Brainstorming Techniques Building Empowered Teams Coaching & Mentoring Building High Performance Teams Team Motivation Colocation & Geographically dispersed teams

Adaptive Planning

Domain	Tools & Techniques	Knowledge & Skills
Adaptive Planning	Process Tailoring Iteration and release planning Wideband Delphi and planning Poker Progressive elaboration Timeboxing Minimally Marketable Feature (MMF) Ideal Time Affinity Estimating Relative Sizing | Story Points	Time, budget, and cost estimation Value-based decomposition and prioritization Agile charters Business Case development Innovation Games

Problem Detecting & Resolution

Domain	Tools & Techniques	Knowledge & Skills
Problem Detection & Resolution	Cycle Time Escaped defects Continuous Integration Risk based spike Frequent verification and validation Test-driven development |Test First Development Acceptance Test Driven Development	Problem Solving Control Limits Failure Modes & Alternatives Variance and trend analysis

Continuous Improvement

Domain	Tools & Techniques	Knowledge & Skills
Continuous Improvement	Retrospective	Knowledge Sharing Process Analysis Applying new agile practices PMI's code of Ethics & Professional Conduct Continuous Improvement Self-Assessment

PMI-ACP Intro Practice Questions

1. Welcome to the PMI-ACP practice exam. The questions on the PMI-ACP actual exam aren't too verbose and are mostly scenario-driven. At the end of each section, I'll provide a quiz like this one. Since this is an introductory chapter, this test is for practice and is pretty light. Let's start with this question: What's the primary goal of this course?

A. Implement agile project management.

B. Pass the PMI-ACP exam.

C. Earn 21 PDUs.

D. Get certified as a Scrum Master.

Ans: B. The goal of this course is to pass the PMI-ACP exam. Choices, A, C, and D are all incorrect answers.

2. Will PMI accept this course for the contact hours as proof of education?

A. No, you can't watch videos for your training.

B. Yes, you can take online, interactive training that tracks your actual completion.

C. No, it has to be an in-person class.

D. Yes, because all training is done online.

Ans: B. You can take this course for your contact hours of education. You cannot read books and watch videos, such as DVDs, for your contact hours of education. This course is interactive and your completion rate is recorded as evidence of completion. You'll also complete an end-of-course assessment exam. Choices A, C, and D are all incorrect.

3. What's an exam domain?

A. Domains are your levels of proficiency on test topics.

B. Domains are test topics.

C. Domains are categories of knowledge.

D. Domains are activities the PMI-ACP should complete.

Ans: C. Domains are categories of knowledge. Choices A, B, and D are incorrect as these answers do not describe an exam domain.

4. What's the cost of the exam if you're a PMI member?

A. $129

B. $435

C. $455

D. $495

Ans: B. If you're a PMI member, the cost of the exam is $435. Choices A, C, and D are incorrect as it costs $129 to join PMI. The exam fee is $455 if you're not a PMI member. $495 is not a relevant price for the exam fees.

5. You're ready to pass the PMI-ACP exam. Once you get to the testing center how long will you have to complete the exam?

A. 3 hours.

B. 3 hours and fifteen minutes.

C. 4 hours.

D. 2 hours.

Ans: A. The allotted time to complete the PMI-ACP exam is 3 hours. All other choices are not valid timing for the PMI-ACP exam.

6. Which exam domain counts the most towards your exam score?

A. Agile Principles and Mindset.

B. Value-driven Delivery.

C. Stakeholder Engagement.

D. Team Performance.

Ans: B. Value-driven delivery is worth 20 percent of your exam score. A, C, and D are incorrect as Agile Principles and Mindset is worth 16 percent. Stakeholder Engagement is worth 17 percent. Team Performance is worth 16 percent.

7. What is the passing score for the PMI-ACP exam?

A. PMI doesn't say.

B. 61 percent.

C. 64 percent.

D. 72 percent.

Ans: A. PMI doesn't say what the passing score for the test. Choices B, C, and D are incorrect choices for this question.

8. How many hours working on agile projects must you have in order to qualify for the PMI-ACP exam?

A. 2,000 hours.

B. 21 hours.

C. 35 hours.

D. 1,500 hours.

Ans: D. You need 1,500 hours of agile project management experience and 2,000 hours of general project management experience. Choices B and C are also incorrect choices for this question.

9. How do you get your certificate of completion for completing this course?

A. It's the last lecture of the course.

B. Email the instructor.

C. Email PMI.

D. You don't get a certificate.

Ans: A. That's right; the certificate of completion is available when you've completed the course! I get emails from people all the time telling me they're done with the course and they'd like to get their certificate. Nope! If you're done with the course, you'll see that the final lecture is your certificate. Don't be that guy! Choices B, C, and D are incorrect choices for this question.

10. How many PMI-ACP exam domains are there?

A. Five.

B. Seven.

C. Nine.

D. Thirteen.

Ans: B. There are seven PMI-ACP exam domains: Agile Principles and Mindset, Value-driven Delivery, Stakeholder Engagement, Team Performance, Adaptive Planning, Problem Detection and Resolution, and Continuous Improvement. A, C, and D are incorrect choices for this question.

PMI: Agile Certified Practitioner

PMI-ACP

Lessons

Test Prep

Lesson 2 AGILE FRAMEWORK

Topics to Discuss

- Creating an Agile Mindset
- Explore Agile Methodologies
    - Scrum
    - XP
    - Lean Kanban
    - DSDM
    - Crystal
    - FDD
    - ASD
    - AUP
    - DDD
    - TDD

What is Agile Principles and Mindset Tasks?

- Advocate for agile principles and values in the organization
- Ensure common understanding of agile principles
- Educate and influence agile
- Transparency equates to trust
- Safe environment for experimenting
- Experiment with new techniques and processes
- Share knowledge new collaboration
- Emergent leadership
- Practice servant leadership

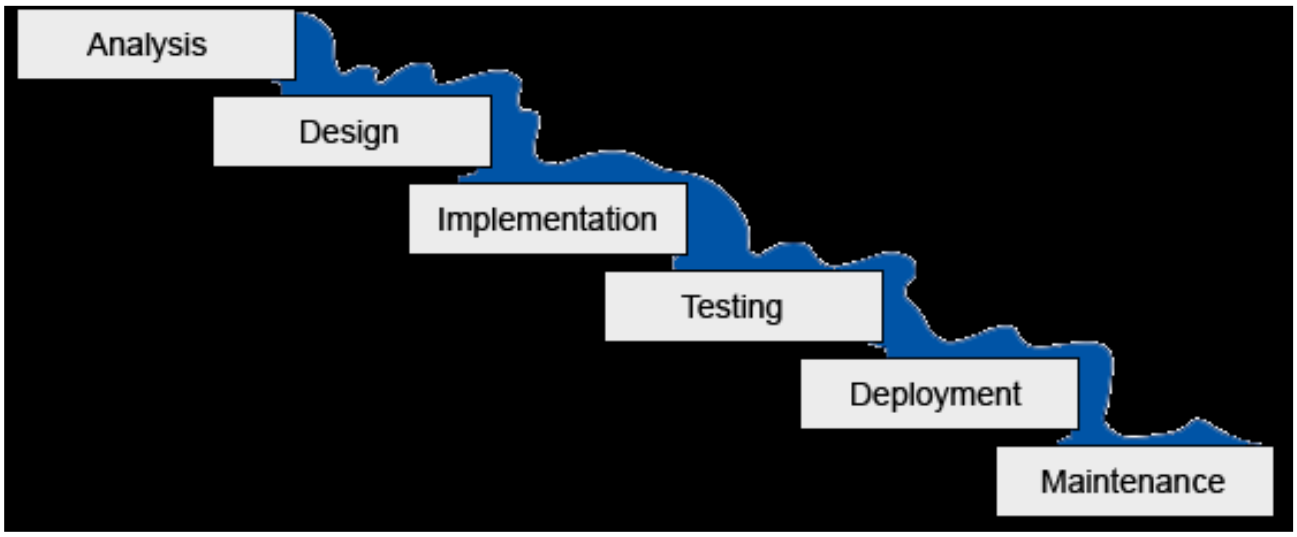
Why Agile?

- Reduce turnaround time for features
- Predictability of Market Releases > Content Timing
- Ability to handle complex product enhancements
- Project priorities change
- Need to respond to customer requirements and market dynamics
- Promote team work and less reliance on individual heroics
- Course corrections and continuous improvements

Why Agile Methods?

Why do we need another approach for managing projects?

- Different types of projects use different approaches
- Value of customizing our approach to different situations often in small ways. We don't resolve every issue the exact same way, instead, we adjust our approach to be effective for the unique situation. The same concept applies to how we manage our project.
- Some projects, especially knowledge worker projects occurring in fast moving or time-constrained environments, call for an agile approach
- Predictive project plan up front - Industrial
- Knowledge work has many unknowns



Contrast Industrial Vs Knowledge Project?

Industrial	Knowledge
○ Visible ○ Stable ○ Running things ○ Structure ○ Correct answers ○ Task driven ○ Command and control ○ Standards ○ Performance measurement ○ Cost of workers for a task	○ Invisible ○ Lots of changes ○ Changing environment ○ Less structure ○ Lots of questions ○ Value-driven ○ Autonomy driven ○ Innovation ○ Learning and teaching ○ Workers are an asset not a cost

How would you say Knowledge work projects are different?

- Industrial work requires up-front planning
- Knowledge work expects change
- Knowledge work is invisible work
- Agile is best suited for software development projects

Defined Vs Empirical Process?

- Industrial work relies on defined processes
- Knowledge work relies on empirical processes
- A Defined process defines all steps in advance, same output is expected every time the process is followed, best suits for “Simple” and “Complicated” problem domains
- An Empirical process are interactive, incremental, change often, adapt, and pass through the reviews, Empirical processes are change-driven

Why Agile methodology is empirical in nature?

- Course correction at frequent intervals
- Regular customer feedback
- Failure detected early and hence early adoption of corrective measures
- Status is visible to all stakeholders in a consistent way

What is Agile Manifesto? What are Agile 4 Values?

Meeting at Snowbird resort by 17 software pundits and light weight methodologists, February 2001. Created "Agile Manifesto"

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value. i.e., Agile Values

- **Individuals and interactions over processes and tools**
- **Working software over comprehensive documentation**
- **Customer collaboration over contract negotiation**
- **Responding to change over following a plan**

That is, while there is value in the items on the right, we value the items on the left more.

Author: - Kent Beck, Mike Beedle, Arie Van Bennekum, Alistair Cockburn, Ward Cunningham, Martin Fowler, James Greening, Jim Highsmith, Andrew Hunt, Ron Jerries, Jon Kern, Brian Marick, Robert C. Martin, Steve Mellor, Ken Schwaber, Jeff Sutherland, Dave Thomas

Agile Manifesto: Explanation

Individuals and Integrations Over Process & Tools

- **Individuals and interactions are most important**
- **Processes and tools will be needed on projects**
- **Projects are completed by people not processes and tools**
- **Agile projects are people driven**

Working Software over Comprehensive Documentation

- **Agile project need to deliver value**
- **Value is about the purpose or business need the project aims to deliver**
- **Documentation is barely sufficient**
- **Documentation is done just in time –as the last responsible moment**
- **Documentation might also be just because**
    - **Industry requirements**
    - **Organizational requirements**

Customer Collaboration over Contract Negotiation

- Agile is flexible, accommodating, and willing to change
- Contracts are often rigid and uncooperative
- Agile contracts must accommodate change
- There's a difference between being right and doing the right thing

Responding to Change over a following plan

- Agile welcomes change
- Predictive projects plan everything in advance
- Agile projects have lots and lots of many changes
- Agile projects have uncertainty up front

What are Agile Principles? What are 12 principles behind Agile Manifesto?

No	Principle	Shortened Version
1	Our highest priority is to satisfy the customers through early and continuous delivery of valuable software	Customer Satisfaction
2	Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.	Welcome Changes
3	Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.	Deliver Frequently
4	Business people and developers must work together daily throughout the project.	Work with business
5	Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done	Motivated People
6	The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.	Face to Face Communication
7	Working software is the primary measure of progress.	Measure Software Done

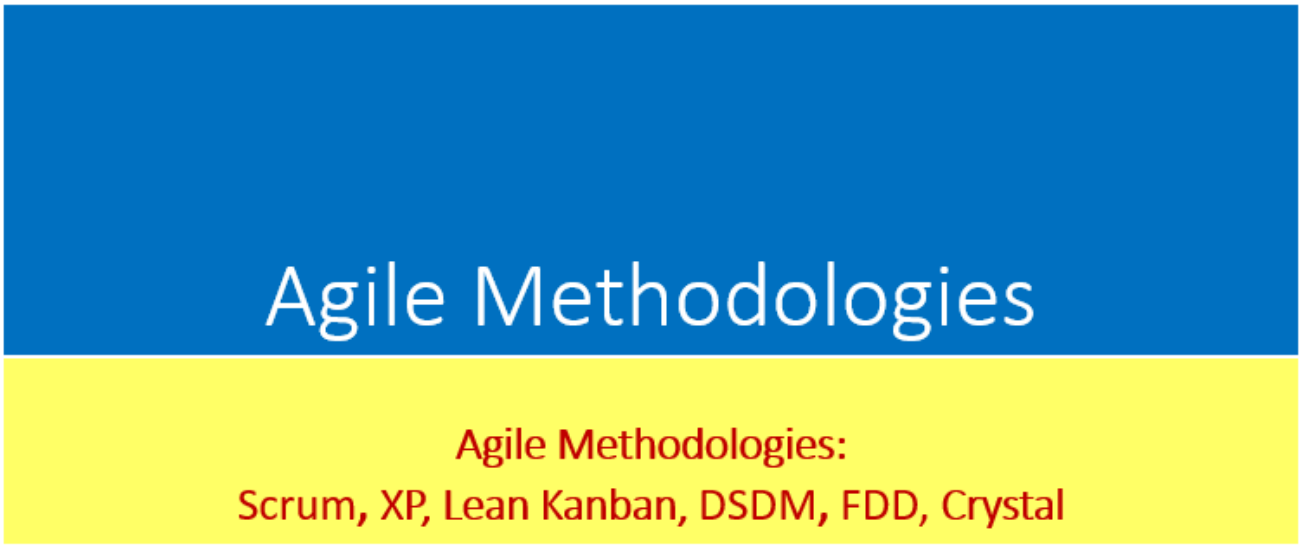
8	Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.	Maintain Sustainable Pace
9	Continuous attention to technical excellence and good design enhances agility.	Maintain Design
10	Simplicity –the art of maximizing the amount of work not done is essential	Keep it Simple
11	The best architectures, requirements, and designs emerge from self-organizing teams.	Team creates Architecture
12	At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.	Reflect and Adjust

What is Declaration of Interdependence?

- We increase return on investment by making continuous flow of value our focus
- We deliver reliable results by engaging customers infrequent interactions and shared ownership
- We expect uncertainty and manage for it to iterations anticipations and adaptation
- We unleash creativity and innovation by recognizing that individuals are the ultimate source of value and creating an environment where they can make a difference
- We boost performance through group accountability for results and shared responsibility for team effectiveness
- We improve effectiveness and reliability through situationally specific strategies processes and practices

What are the Agile Leadership Practices?

- Honesty
- Forward looking
- Competent
- Inspiring



What are the Agile Methodologies?

Methodologies	Information
Scrum	Most popular agile methods Strongly codified set of ceremonies, roles and artifacts
XP	Foremost of agile methodologies Strong set of technical practices
Lean Kanban	Lean - Set of principles evolved from manufacturing to eliminate waste Kanban literally means a “signboard” or “billboard” and it espouses the use of visual aids to assist and track production. Lean Kanban integrates the use of the visualization methods as prescribed by Kanban along with the principles of Lean creating a visual incremental evolutionary process management system.
DSDM	Offshoot of Rapid Application Development Methodology Cost | Quality/time fixed and requirements prioritized as per MOSCOW
Crystal	Principles are categorized according to criticality and size of the project. Critical Levels: Comfort (C)| Discretionary Money | Essential Money (E) | Life (L)
Feature Driven Development	Plan | Develop and build by feature

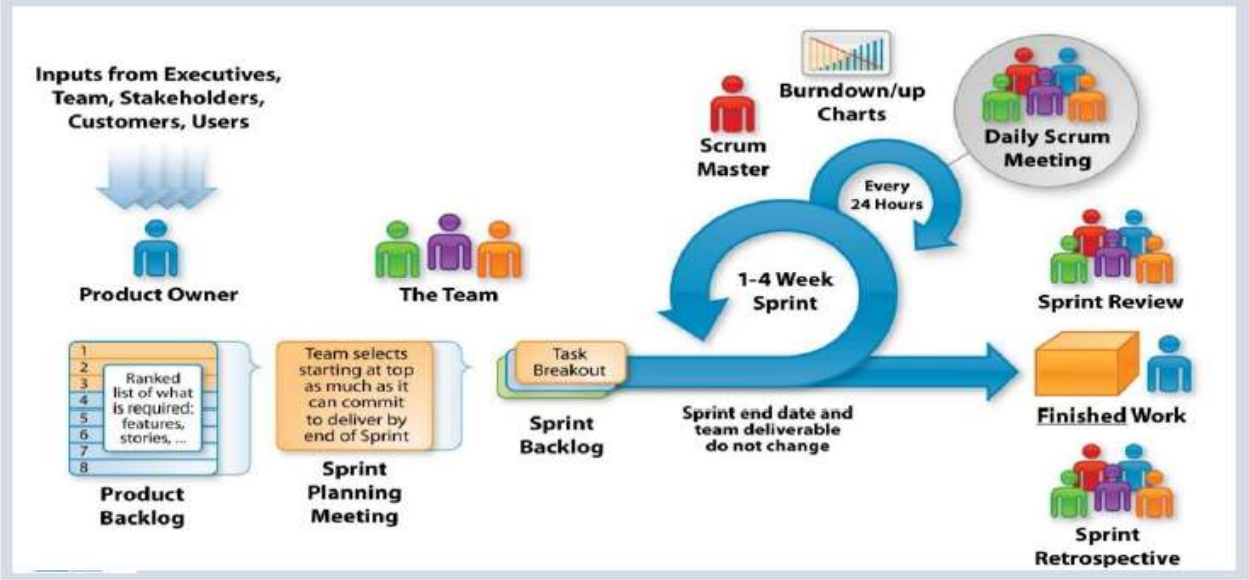
Adaptive Software Development (ASD)	ASD are constant adaptation of processes to the work at hand, provision of solutions to problems surfacing in large projects, and iterative, incremental development with continuous prototyping.
Agile Unified Process (AUP)	AUP combines industry-tried-and-tested Agile techniques such as Test-Driven Development (TDD), Agile Modelling, agile change management, and database refactoring, to deliver a working product of the best quality
Domain-Driven Design (DDD)	Domain-driven design is an Agile development approach meant for handling complex designs with implementation linked to an evolving model.
Test Driven Development	Test Driven Development is a software development method that involves writing automated test code first and developing the least amount of code necessary to pass that test later.

Scrum

Scrum Intro

What is Scrum?

- The scrum framework is a set of practices, roles and responsibilities, events, artifacts, and rules
- Scrum is easy to understand, but can be difficult to master
- Scrum is a rugby term
- Scrum uses a methodology called the scrum framework



Tell me Scrum in 100 words?

- Scrum is an agile process that allows us to focus on delivering the highest business value in the shortest time.
- It allows us too rapidly and repeatedly and repeatedly inspect actual working software in every two weeks.
- The business set the priorities. Team self-organize to determine the best way to deliver the highest priority features.
- Every two weeks to a month anyone can see the real working software and decide to release it as is or continue to enhance it for another sprint.

What is Scrum theory?

Scrum is founded on empirical process control theory, or empiricism. Empiricism asserts that knowledge comes from experience and making decisions based on what is known. Scrum employs an iterative, incremental approach to optimize predictability and control risk. Three pillars uphold every implementation of empirical process control: transparency, inspection, and adaptation.

What are the Characteristics of Scrum?

- The most popular 'Agile Processes' in Agile software development
- A project management/execution process framework
- Well suited for projects that require Empirical process control
- Focuses on self-organizing teams
- Requirements are captured in a prioritized list (Product Backlog)
- Product progresses in a series of month-long "sprints"
- No specific engineering practices prescribed
- Uses generative rules to create an agile environment for delivering projects

What is Defined & Empirical Process?

Defined Process

A Defined process defines all steps in advance, same output is expected every time the process is followed, best suits for "Simple" and "Complicated" problem domains.

- Follows pre-defined steps to achieve an Output.
- Suitable when the output is well defined.
- Same output is expected every time the process is followed.
- Best suits for problems those fall into "Simple" and "Complicated" problem domains.

Empirical Process

An Empirical process are interactive, incremental, change often, adapt, and pass through the reviews, Empirical processes are change-driven

As software products and requirements cannot be 100% confirmed, fixed at the beginning, the best way to build the winning product is to continuously inspect, and adapt at regular intervals, effectively and efficiently. Empirical Process is based on such inspect and adapt cycle.

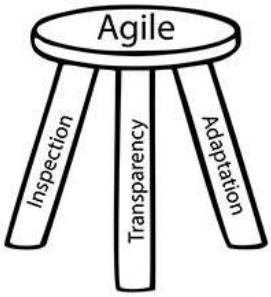
An Empirical Process is: -

- **Built based on the series of experiments**
- **Experience based decision making**
- **Suitable when the output can't be well defined**
- **Definition of output is refined based on the result of experiments**
- **Steps in the process are adjusted based on the feedback from the experiments**
- **Deming Wheel – Plan – DO Inspect -Adapt**

In order to build the winning products and deliver value SCRUM has various feedback loops so that product and process are inspected, adapted and transparent.

Three legs | pillars of SCRUM – Inspection, Adaptation & Transparency: -

- **Inspection – Frequent Inspection of artefacts helps stakeholders to make any changes to achieve the goal**
- **Adaptation – Continuous improvement by adjusting the process based on the inspection**
- **Transparency – All artefacts of the process are visible to all the stakeholders. This helps stakeholders to inspect the current stake and take any required action**



How would you say Scrum is based on empiricism?

Scrum is based in empiricism because: -

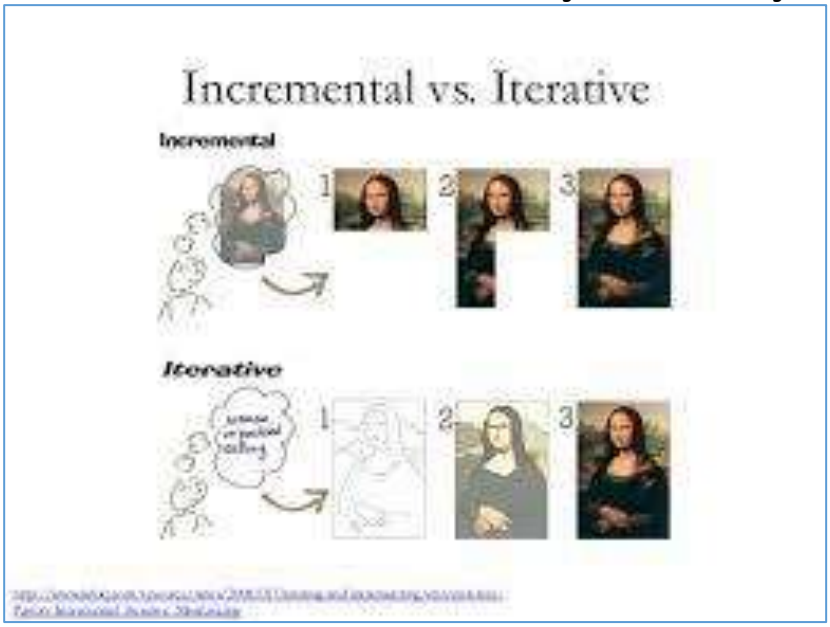
- All Artifacts should be transparent to all stakeholders
- All Scrum roles are empowered to do the job right
- All Scrum meetings allow collaboration and opportunities for inspection ad adaptation
- In Scrum, the process is constantly adjusted if needed based on the short and continuous feedback loops at iteration levels.

Why Agile methodology is empirical in nature?

- Course correction at frequent intervals
- Regular customer feedback
- Failure detected early and hence early adoption of corrective measures
- Status is visible to all stakeholders in a consistent way

How would you say Scrum is incremental and iterative?

Scrum team delivers value incrementally and Iteratively



Incremental Development

Incremental development is to build small increment of a full fledges product. Each increment adds more software value – like Adding package to a Software Product. After lot of increments, you have got a big Software Product.

Benefits

- Reduce risk during development
- Early discovery and mitigation of risks
- Accommodates changes early
- Manageable Complexity
- Higher confidence and satisfaction from early repeated successful delivery
- Early and continuously visibility of product increment
- Better predictability and progress
- Higher quality and lower defects
- Final product close to customer's desire
- Early and regular process improvement
- Continuous collaboration ad engagement with customers
- Effective and efficient
- Usable product at any time
- Sustainable pace of development

Iterative Development

Iterative development is to build something, to get some feedback, then refine it to make better, keep doing that until the product is good enough.

Benefits

- Focus on high value and good Return on Investment (ROI)
- Reduce rarely used features, maximize frequently used features
- Usable product at any time
- Quality Focus
- Effective and efficient
- Usable product at any time
- Sustainable pace of development

Coin a Scrum Word from the Scrum values?

What are the Scrum values?

All work performed in SCRUM needs a set of values as the foundation for the team's processes and interactions. And by embracing these five values, the team makes them more instrumental to its health and success.

Focus

Because we focus on only a few things at a time, we work well together and produce excellent work. We deliver valuable items sooner.

Courage

Because we work as a team, we feel supported and have more resources at our disposal. This gives us the courage to undertake greater challenges.

Openness

As we work together, we express how we're doing, what's in our way, and our concerns so they can be addressed.

Commitment

Because we have great control over our own destiny, we are more committed to success.

Respect

As we work together, sharing successes and failures, we come to respect each other and to help each other become worthy of respect.

As an organization applies Scrum it discovers its benefits. At the same time, it sees how these values inherently contribute to the success of Scrum and understands why they are both needed, and bolstered, by Scrum.

Tell me Scrum Framework in short?

Already we have seen the Agile has 4 Values & 12 Principles

SCRUM is a simple process framework. SCRUM has

3 Legs : Inspect, Adapt, Transparent

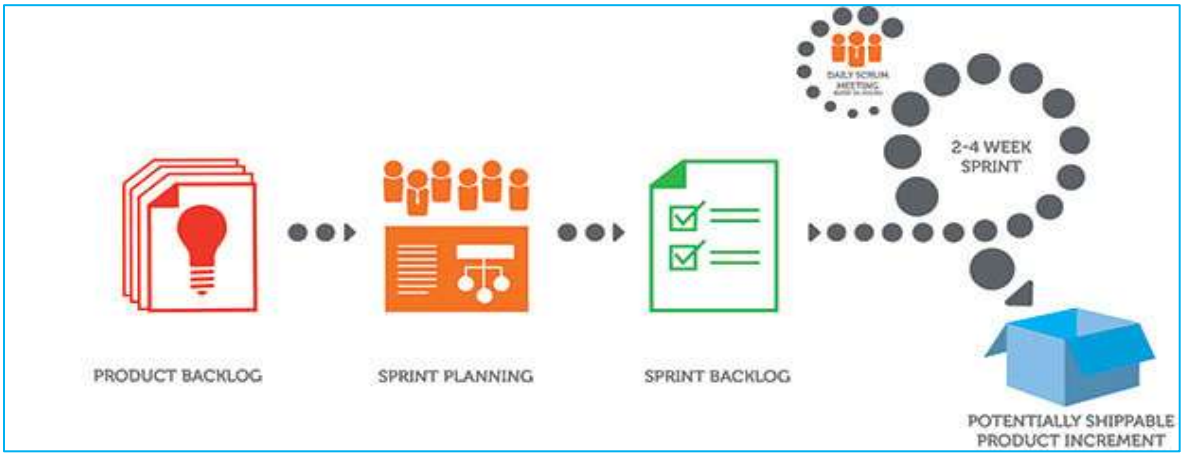
3 Roles : Product Owner | Scrum Master | Development Team

3 Artifacts : Product Backlog | Sprint Backlog | Product Increment

4 Meetings : Sprint Planning | Daily SCRUM | Sprint Review | Sprint Retrospective

1 Activity : Product Backlog Refinement

5 Values : Focus | Courage | Openness | Commitment | Respect



Product Backlog - Ordered list of items to be worked on for the product

Sprint Backlog - Product backlog items selected to work in the Sprint and the work plan to complete those items

Product Increment - Completed product backlog items in a sprint, which are ready to be delivered to the customer

Product Backlog Refinement - A meeting to get the product backlog items ready for the next few sprints

Sprint Planning - A meeting to create the sprint goal and plan the work for the sprint

Daily Scrum - A daily 15-minute time boxed event for the Development Team to synchronize activities and create a plan for the next 24 hours

Sprint Review - A meeting to inspect the product increment and adapt the product backlog if needed

Sprint Retrospective - A meeting for the scrum team to inspect and adapt the process, people and tools

What are the Principles of Scrum?

Scrum principles are the core guidelines for applying the Scrum framework and should mandatory be used in all Scrum projects. The six Scrum principles are: -

- Empirical Process Control
- Self-organization
- Collaboration
- Value-based Prioritization
- Time-boxing
- Iterative Development

The Scrum Team

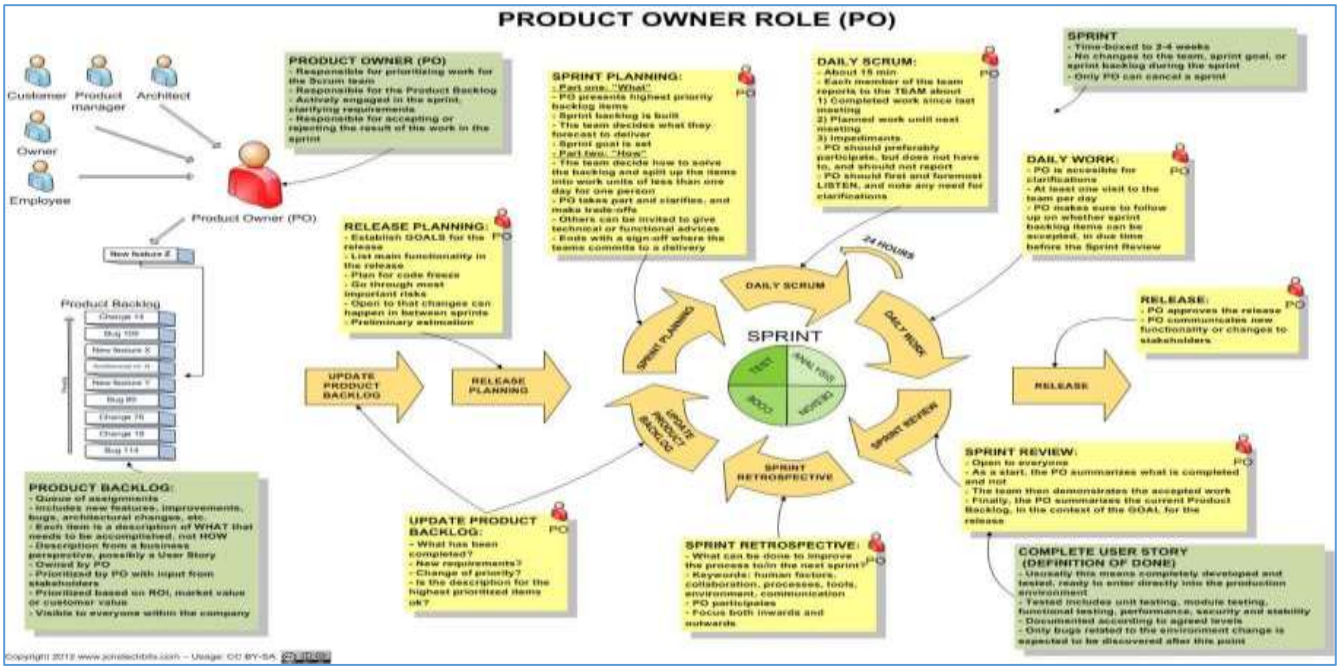
Who are the Scrum Team members? What are their responsibilities?

- Scrum Master –Responsible for communicating the scrum methodology and ensuring the methodology is used effectively
- Product owner –Prioritizes the product backlog to ensure value from each sprint
- Development team –The software developers who create the product through the sprint

Item	Development Team	Product Owner	Scrum Master
Estimates	✓ DT		
Backlog Priorities		✓ PO	
Agile Coaching			✓ SM
Velocity Predictions	✓ DT		
Definition of Done | Sprint Planning	✓ DT	✓ PO	✓ SM
Process Adherence			✓ SM
Technical Decision	✓ DT		

What are the responsibilities of Product Owner?

- Defines the feature of the product
- Decide on release date and content
- Be responsible for the profitability of the product (ROI)
- Prioritize features according to the market value
- Adjust features and priority every iteration, as needed
- Accept or reject work results
- Maintains and grooms the Product Backlog
- An effective product owner is Committed, Responsible, Authorized, Collaborative, and Knowledgeable (CRACK)



What are the responsibilities of Scrum Master?

- Represents management to the project
- Responsible for enacting Scrum rules, values and practices and censure team members and stakeholders not adhering to these rules ad norms
- Removes impediments
- Ensure that the team is fully functional and productive
- Enable close co-operation across all roles and functions
- Shield the team from external interferences
- Practices "Servant Leadership" – Facilitator and enabler rather than a Manager

What are the responsibilities of Development Team?

- **Typically, 4 – 9 people. Ideally 7+/- 2 (Note: Scrum Master & Product Owner Excluded)**
- **Cross functional – Programmers, testers, user experience designers, etc.,**
- **Members should be full-time – May be exceptions for DBA's**
- **Teams are self-organizing (No titles)**
- **Membership should change only between sprints**

Scrum Events

What are the Scrum Events or Ceremonies?

Prescribed events are used in Scrum to create regularity and to minimize the need for meetings not defined in Scrum. All events are time-boxed events, such that every event has a maximum duration. Once a Sprint begins, its duration is fixed and cannot be shortened or lengthened. The remaining events may end whenever the purpose of the event is achieved, ensuring an appropriate amount of time is spent without allowing waste in the process.

Other than the Sprint itself, which is a container for all other events, each event in Scrum is a formal opportunity to inspect and adapt something. These events are specifically designed to enable critical transparency and inspection. Failure to include any of these events results in reduced transparency and is a lost opportunity to inspect and adapt. Scrum activities are also known as events or ceremonies

There are four scrum events or ceremonies:

- Sprint planning
- Daily scrum
- Sprint reviews
- Sprint retrospective

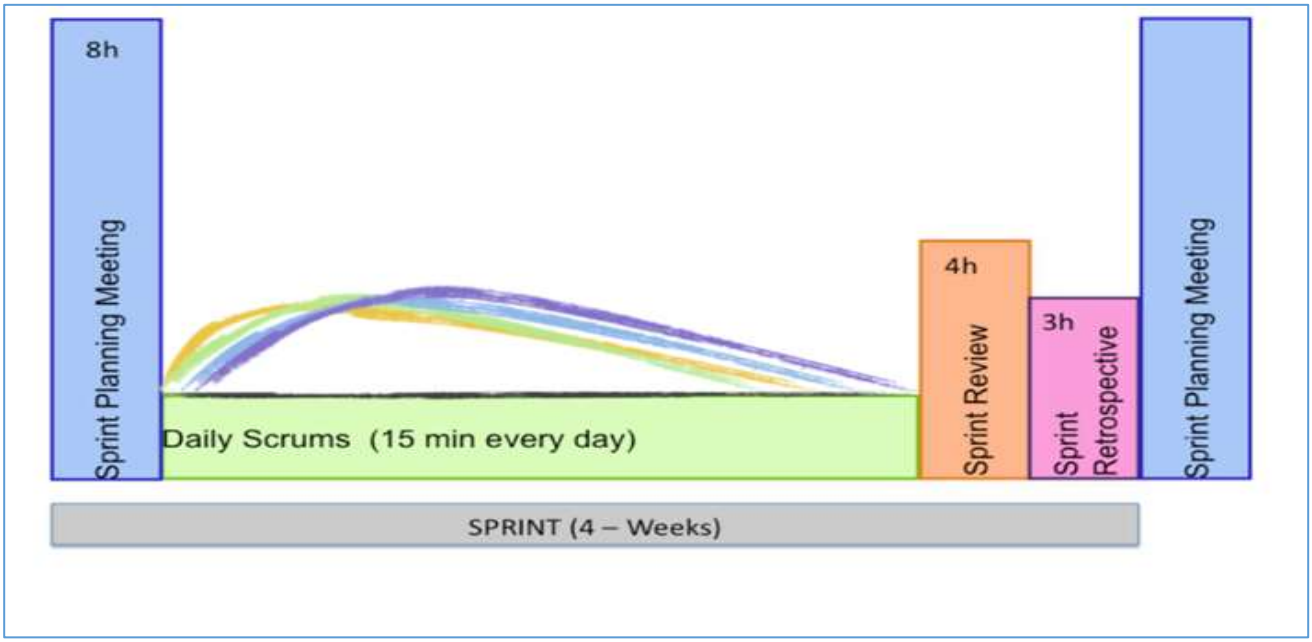
What is Sprint?

- Scrum projects make progress in a series of “Sprints”
- Timebox iteration for project work. A timebox is a predetermined duration
- Scrum sprints are between two to four weeks in duration. A constant duration leads to better rhythm
- During a sprint no changes are made that would affect the goal of the sprint
- A sprint can be cancelled if they change in the project goals make the sprint goals obsolete. Only the product owner may cancel a sprint
- If a sprint is cancelled, uncompleted backlog items are returned to the product backlog
- The development team members are kept the same throughout the sprint , team members has to update the sprint backlog and attend the daily scrum meeting
- Within a sprint there are several activities:
  - Sprint planning meeting
  - Development
  - Daily scrums
  - Sprint review meeting
  - Sprint retrospective meeting

Is it Scrum Events are Timeboxed?

Yes. All the Scrum events are time-boxed.

- **Time box is the maximum time allowed for an event**
- **Time box makes teams focus on most important things first**
- **All Scrum events are time boxed. Sprints are time boxed at 1-6 weeks**
- **Timeboxing for scrum ceremonies:**
    - **Sprint (Ideally 2 Weeks, Max: 4 Weeks)**
    - **Sprint planning meetings (Max: 8 Hours)**
    - **Daily scrum (Max: 15 Mins)**
    - **Sprint reviews (Max: 4 Hours)**
    - **Sprint retrospective (Max:3 Hours)**



How Sprint Planning will be executed?

- **Product Owner and Project team needs to discuss the goals of the upcoming sprint**
- **Product Owner and team negotiates stories to select in current sprint from prioritized product backlog for the upcoming sprint**
    - **Selected stories are estimated with agreed acceptance criteria**
    - **Team identifies and estimates Task, discusses how the work will be accomplished**
- **Scrum Master, Product Owner and team can attend the meeting**
- **Product Backlog has to be groomed by PO prior to sprint planning meeting, Product owner reviews with the team items in the updated backlog**

- Self-organized Development team defines how the work will be done in the goals of the sprint will be achieved
- Normally split into 2 sets of 4 hours each Timebox: Max 8 hours per sprint
    - First half for choosing the product backlog items with PO
    - Second half for splitting into tasks and assignment (Product Owner is optional for the second half)
- Artifacts – Sprint Goal, Sprint Backlog (Output of Sprint Planning)

Input: Refined Product Backlog | Latest Product Increment | Team Capacity

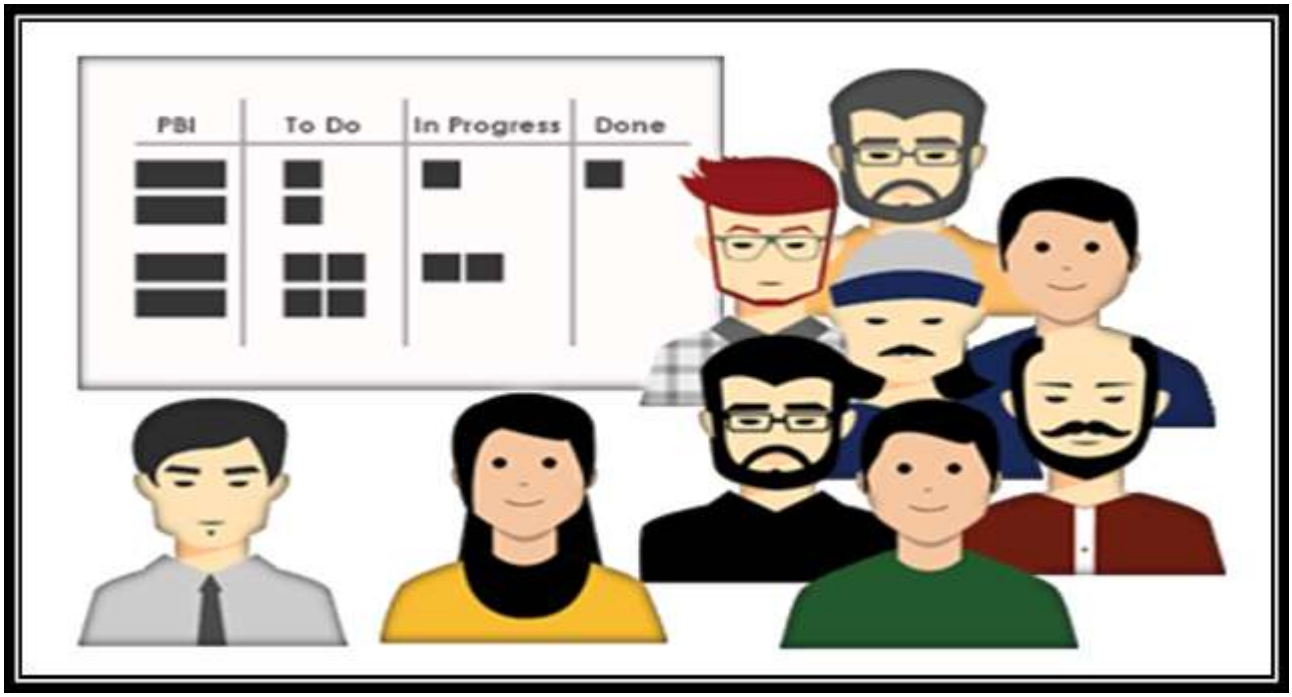
Outcome: Sprint Goal | Sprint Backlog

How Daily Scrum will be executed?

- The daily scrum is also known as a stand-up meeting, typically first activity of the day
- This is a 15-minute timeboxed meeting
- The daily scrum is held every day at the same time and location
- The whole world is invited
- The daily scrum is for the development team only, facilitated by Scrum Master, Product Owner optional
- This is not problem-solving meeting. Pigs can talk, Chickens observe
- Scrum Master to intervene to bring in discipline after due attempts at self-correction

Daily Scrum Meeting Questions for the team members

- What have I done since the last daily scrum?
- What do I plan to do today?
- Are there any impediments to my progress?



Input: Sprint Backlog | Outcome: Updated Sprint Backlog

How the Sprint Review will be executed?

- Team presents what it accomplished during the sprint, typically takes the form of a demo of new features or underlying architecture. Done from QA server (Close to Prod)
- Hosted at the end of every sprint Timebox: Max 4 hours per sprint
- Attendees will be the development team, the product owner, scrum master, and sometimes other project stakeholders
- The development team will demo the work created in the increment
- The group will decide if “Done” has been achieved
- Stakeholders can provide comments which go in to the product backlog
- The development team and the product owner will discuss the sprint and the remaining items in the product backlog further procced with

Input: Product Increment | Outcome: Product Backlog (Revised)

How the Sprint Retrospective will be executed?

- The development team meeting posted after the sprint review, but before the next sprint planning meeting
- Periodically take a look at what is and is not working
- This is a meeting to inspect an adapt Timebox: Max 4 hours per sprint
- Lessons learned and opportunities for improvement
- Review of the product owner's feedback about the last iteration
- An opportunity to improve on their approach based on the retrospective and the last sprint

Input: Feedback | Experience of team members | Outcome: List of improvements

Scrum Artifacts

What is Scrum Artifacts?

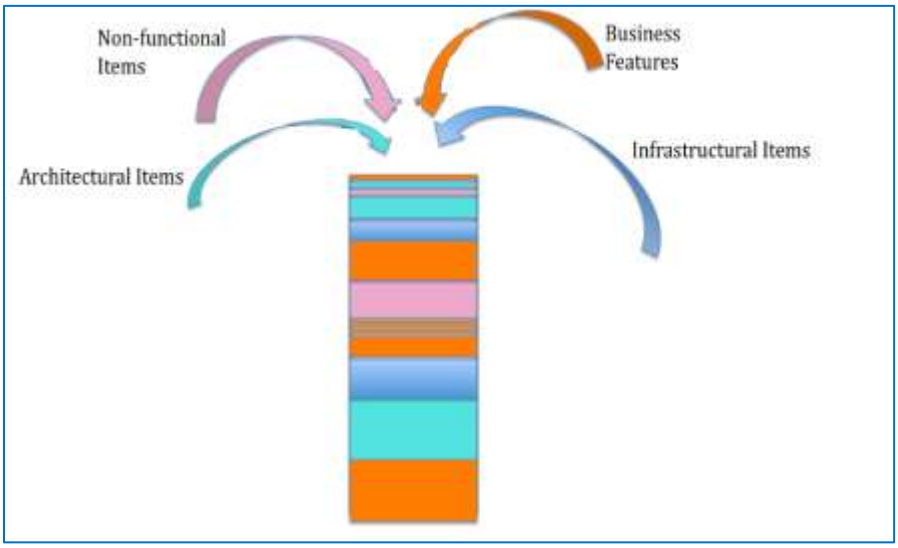
Scrum's artifacts represent work or value to provide transparency and opportunities for inspection and adaptation. Artifacts defined by Scrum are specifically designed to maximize transparency of key information so that everybody has the same understanding of the artifact.

List out Scrum Artifacts

- Product Backlog
- Sprint Backlog

What is Product Backlog?

- List of things that needs to be done to make the product come into existence
- The product backlog is the source for all product requirements
- The product owner sorts and prioritizes the backlog items
- The development team always works on the most important items based on the prioritized items in the product backlog
- The backlog is always prioritized before the current sprint
- Backlog refinement is done by both the product owner and the development team working in harmony
- The team estimates their capacity to attack the items in the product backlog



Each product backlog item would have:

- Description – Details of the item
- Value – What business value this item would provide
- Estimate – Effort estimate to build this item
- Order – The order in which the items should be worked in

Product Backlog contains all items required to accomplish the product vision.

How would we say the Product Backlog is DEEP?

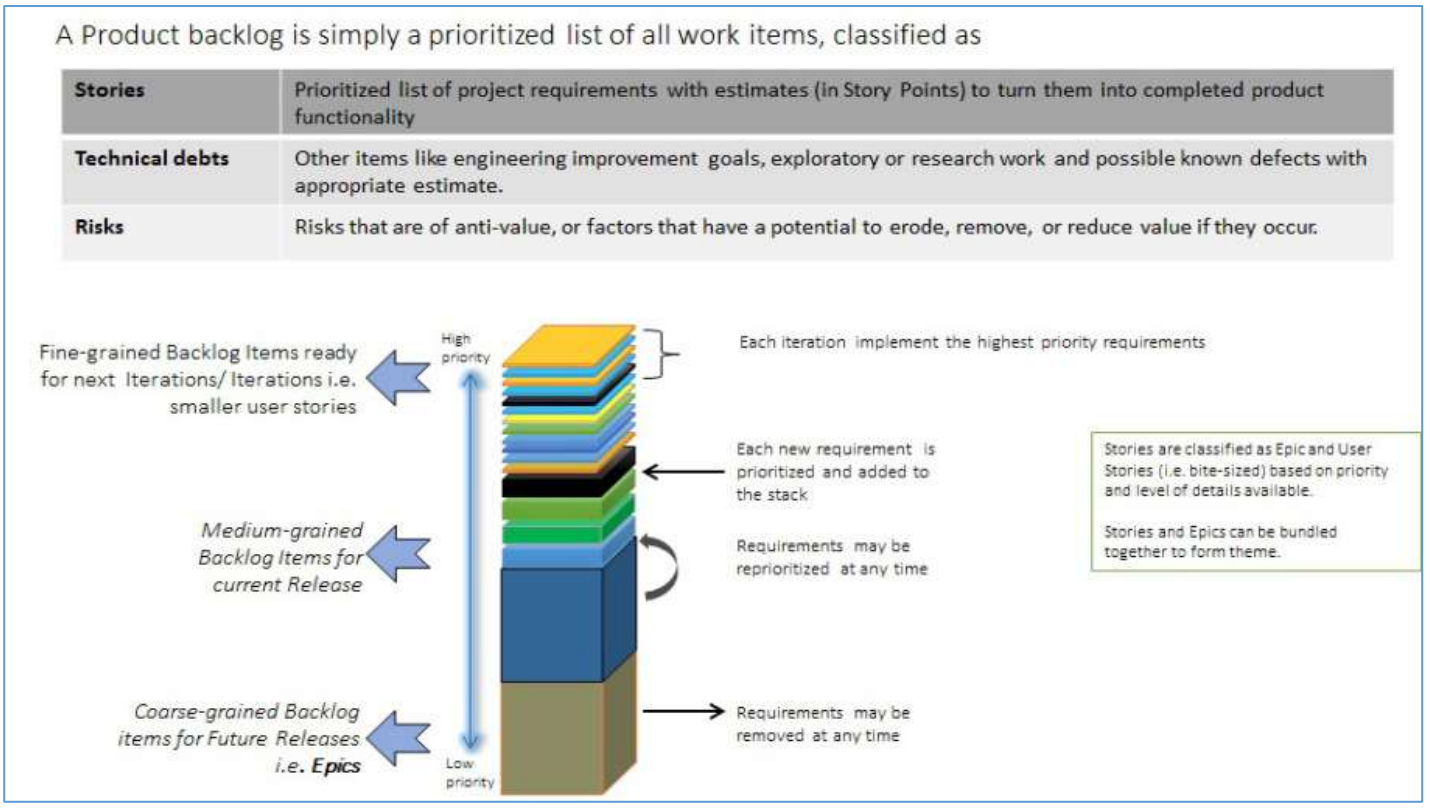
A Product Backlog is best described as DEEP

Detailed Appropriately: Higher order items are more detailed and well understood compared to lower order items

Estimated: Product backlog items are estimated i relative size by the development team. Product owner orders the items based on the value and the cost

Emergent: Product Backlog is a living artifact. It is always updated for details, estimates and order. The life of the product backlog is same as life of the product itself

Prioritized: Product backlog items are ordered based on the priority. The order is force ranking (1,2,3) so that there are no completing priorities



How do we determine the priority?

Customer value prioritization is concerned with working on the items that yield the highest value to the customer as soon as possible.

MoSCoW is a technique used to prioritize stories into four distinct categories:

- **M – MUST have this**
  Requirements that are fundamental to the system; without which system will not work and have no value and have to be included in the current delivery time box

- **S – SHOULD have this**
  Requirements that is important for project success; Important as MUST have but not as time-critical or have a work around's. In other words, not necessary for delivery in the current delivery time box

- **C – COULD have this**
  Requirements not necessary; can include if it increases customer satisfaction for little development cost

- **W – WON'T have this time, but WOULD like in the future**
  Alternatively WANT – No to this release

What is Product Increment?

- **Every sprint produces a product increment, the sum of product backlog items delivered in each sprint is called as Potentially Shippable Product Increment. A product increment is the "goal line" for each sprint and, at the end of the sprint, it must:**
  - **Be of high enough quality to be given to users**
  - **Meet the scrum team's current definition of done**
  - **Be acceptable to the product owner with properly tested, completed in full shape and ready to use**

- **The product increment is the outcome of an iteration**

- **The product increment is a chunk of the project work**

- **The development team and the product owner must be an agreement of what done means for an increment**

- **At the end of each sprint, the team must produce a potentially shippable product increment with the following features**
  - **High Quality**
  - **Tested**
  - **Completed**
  - **Ready to Use**
  - **As per Definition of Done**

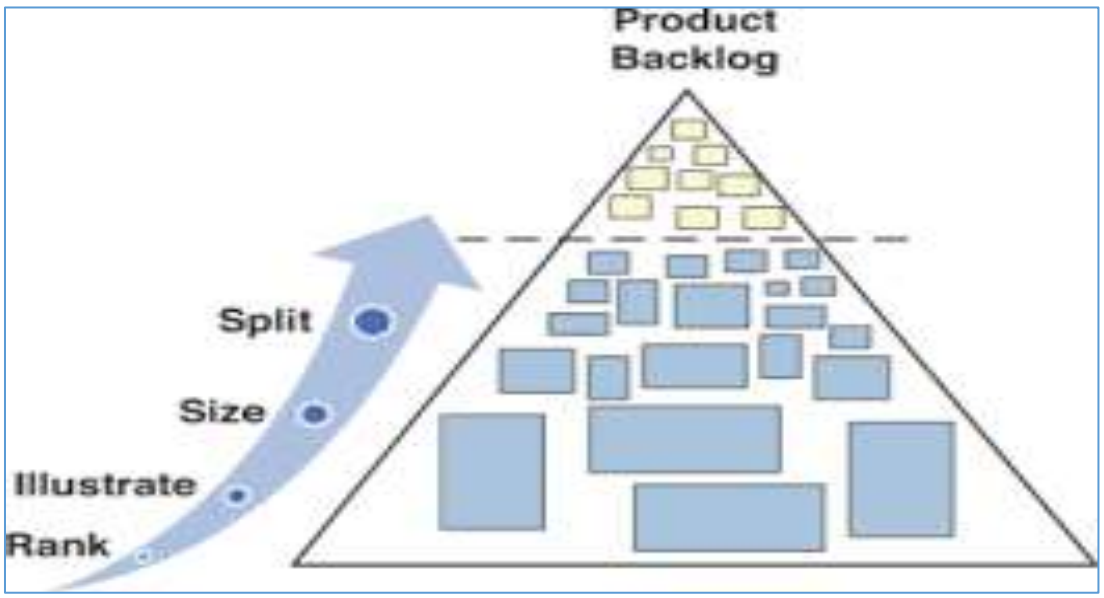
Input: Product Backlog Item | Output: Updated Product Backlog

Should the team always release the Product Increment?

- It depends. If the product increment that is produced is usable and adds the value to the business, product owner may choose to release it right away.
- Though the product increment is working, it may not be the feature complete and product owner may not want to release it
- Some business doesn't want to surprise their customers too often by frequent release
- Whether the product increment is shipped or not, building working software every sprint eliminates the technical uncertainty

What is Product Backlog Refinement?

Product backlog refinement is the process through which product backlog items are reviewed by the Scrum team and revised, providing more detail and ensuring that there is greater clarity in the requirements for that item.



When product backlog is initially created it would have items of various sizes, clarity and value. But a scrum team needs clarity on few most important to get started. Backlog could be depicted as the following picture. Items at the top are important right now and should be smaller in size and more details so that team could start implementing them in upcoming sprints. As you go lower the product backlog, the items are less important ad less detailed. Product owner elaborates them as they become important.

Scrum has an activity called "Product Backlog Refinement" to progressively elaborate the product backlog

- Primary goal of product backlog refinement is to get ready with few items for upcoming one or two sprints
- Product Backlog items that are refined are deemed "Ready" for selection in a Sprint Planning
- Product Backlog Refinement is the act of adding detail, estimates and order to items in the Product Backlog
- Product Backlog Refinement is an ongoing activity throughout a Scrum project

- Team and PO decide the frequency and duration of backlog refinement meeting. However, it is time boxed at 10% of total available time.

What are two outputs of Sprint Planning?

The outputs of Sprint Planning are: -

- Sprint goal
- Sprint Backlog

What is Sprint Goal?

- A short statement of what the work will be focused on during the sprint

- It provides guidance to the Development Team on why it is building the Increment. It is created during the Sprint Planning meeting. The Sprint Goal gives the Development Team some flexibility regarding the functionality implemented within the Sprint. The selected Product Backlog items deliver one coherent function, which can be the Sprint Goal. The Sprint Goal can be any other coherence that causes the Development Team to work together rather than on separate initiatives.

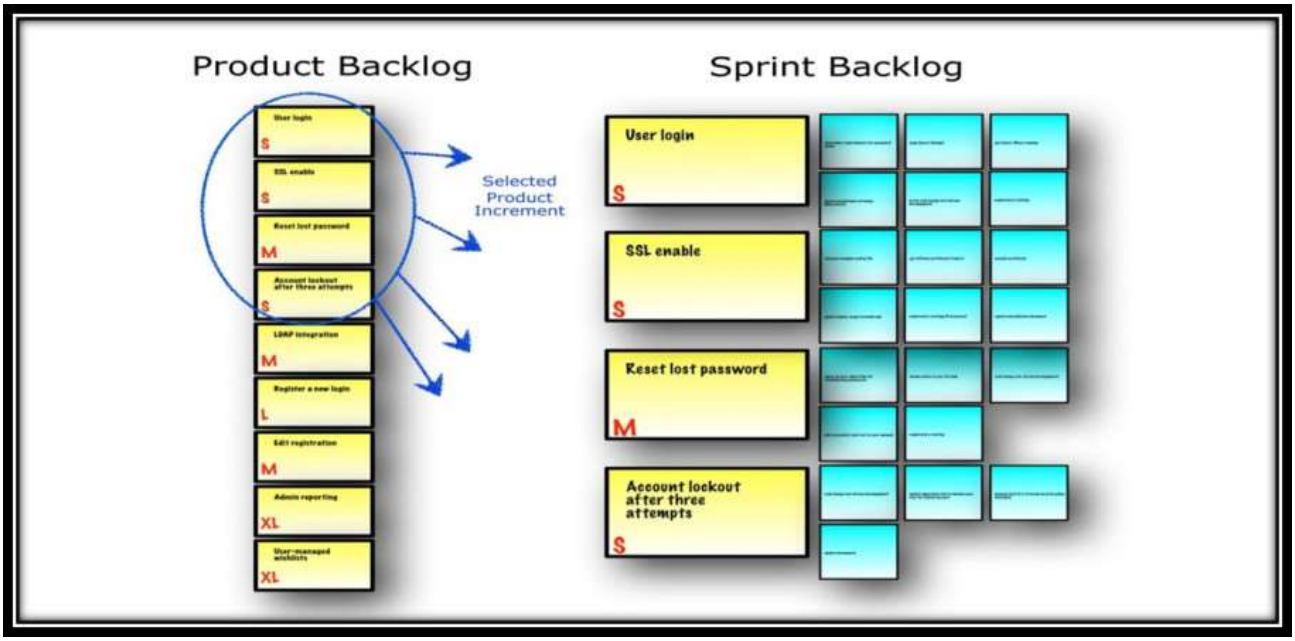
- As the Development Team works, it keeps the Sprint Goal in mind. In order to satisfy the Sprint Goal, it implements the functionality and technology. If the work turns out to be different than the Development Team expected, they collaborate with the Product Owner to negotiate the scope of Sprint Backlog within the Sprint.

What is Sprint Backlog?

The Sprint Backlog is the set of Product Backlog items selected for the Sprint, plus a plan for delivering the product Increment and realizing the Sprint Goal.

The Sprint Backlog is a forecast by the Development Team about what functionality will be in the next Increment and the work needed to deliver that functionality into a "Done" Increment. The Sprint Backlog makes visible all of the work that the Development Team identifies as necessary to meet the Sprint Goal.

- **Highest priority items take into the sprint for implementation and the plan to deliver those items is sprint backlog**
- **Sprint backlog is created during sprint planning**
- **Helps team see the total work involved in achieving the sprint goal**
- **Development team creates and manages the sprint backlog, this includes updating the time left of each task, create any forgotten tasks, update the status of each task etc.**
- **Team should keep the status of the items up to date so that the sprint progress is transparent**
- **All items should be updated at least once a day**
- **Team uses Daily Scrum meeting to inspect and adapt the Sprint backlog**



Input: Committed Product Backlog Items | Output: Updated Sprint | Product Backlog Items

How do we Visually manage the Sprint Backlog?

What is Definition of Done?

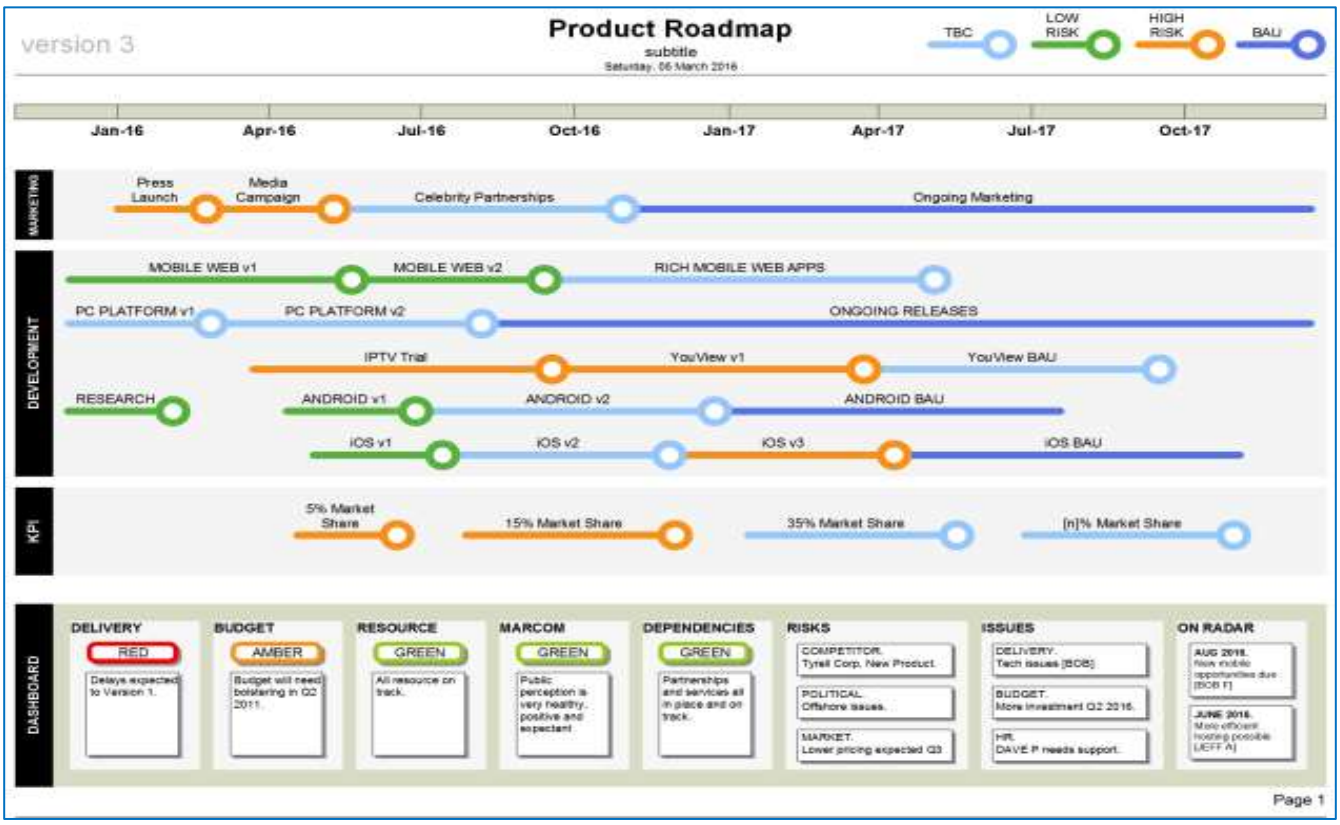
- Definition of Done is a list of attractive activities agreed by the Product Owner and the Development Team to call a backlog item is done
- A stronger DOD leads to higher quality product: -
    - Code Complete
    - Unit tests Written
    - Code Review
    - Manual Functional Testing
    - Automation
    - Updated Documents
    - User Acceptance Testing
    - Successful Deployment

What is Product Vision?

- A product vision is created
- The product must be in alignment with the company's strategy
- This is done by the product owner

What is Product Roadmap?

- The visualization of product features
- The product roadmap equates to the product division as a whole
- This is done and owned by the product owner



What is Release Planning?

- The release timing for specific product functionality
- Priorities are assigned to the product features from most important to least important
- These features become the product backlog
- Owned by the product owner

What is Iteration Planning?

- Goals are established for the current Sprint or iteration
- Goals are based on the product backlog
- Product owner in the development team work together to prioritize features
- This is done at the start of each Sprint

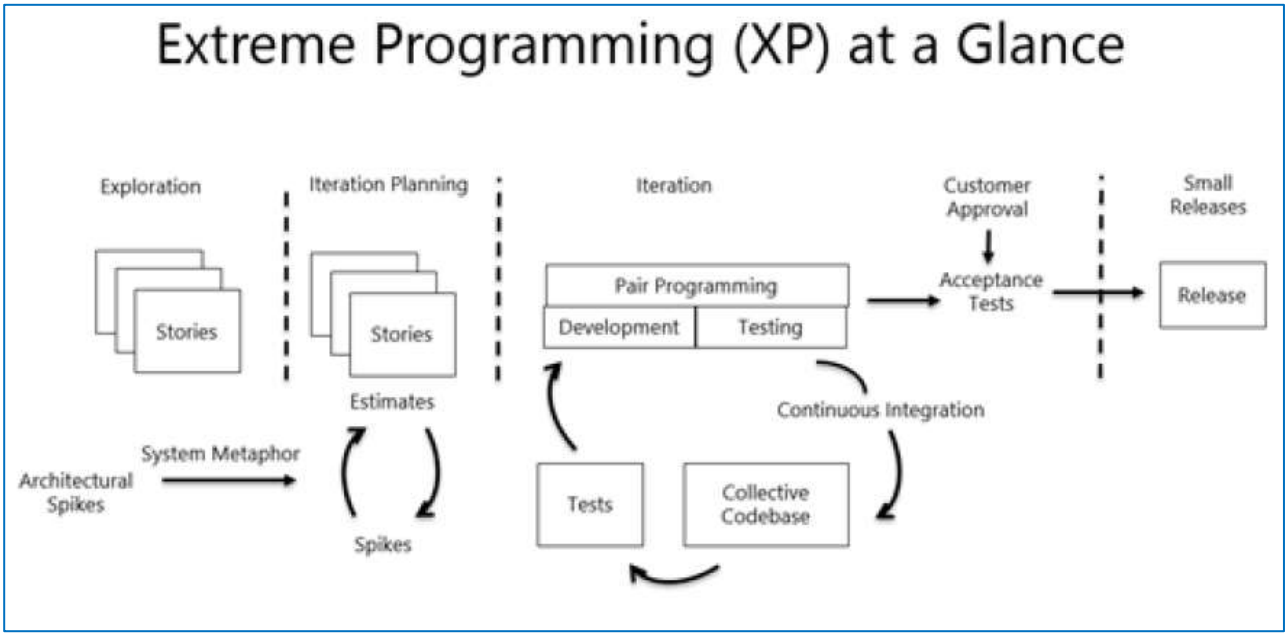
Released Product

- The product is released according to the project's release plan

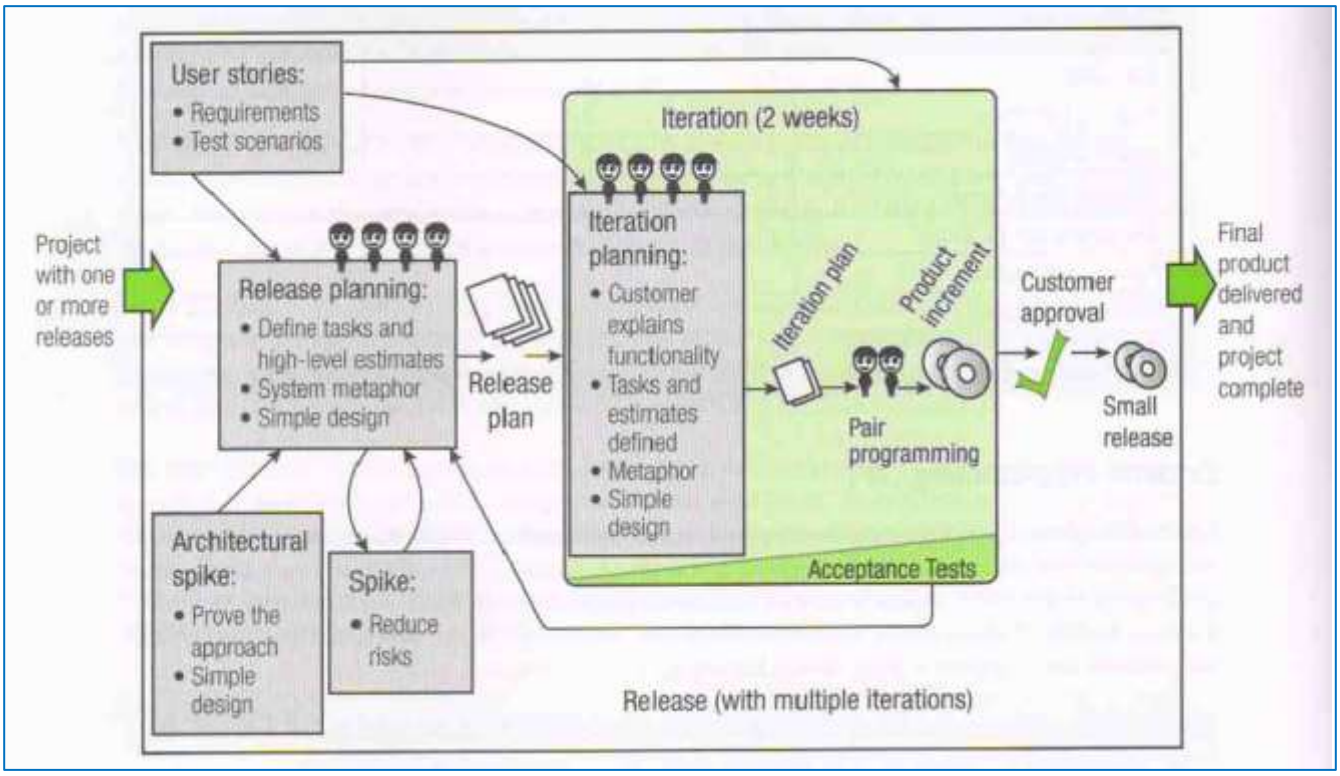
XP

What is XP?

- Extreme programming is also known as XP
- XP is all about software development best practices, while scrum at the project management level focuses on prioritizing work and getting feedback



Explain XP Life Cycle?



What are XP Values?

The XP Values are Simplicity, Communication, Feedback, Courage & Respect

Simplicity

Reducing complexity, extra features, and waste. Find the simplest thing that could possibly work

Communication

- **Ensuring that the project team knows what is expected of them**
- **Ensuring the project team knows what other people are working on**
- **The daily standup meeting is an excellent communication tool**

Feedback

- **The development team needs feedback early in the project**
- **Failing fast is a way to get feedback early**
- **Feedback gives the team an opportunity to improve the project**

Courage

- **Developers' work is entirely visible to others on the project team**
- **Team members share code and correct each other's code**
- **XP uses pair programming**

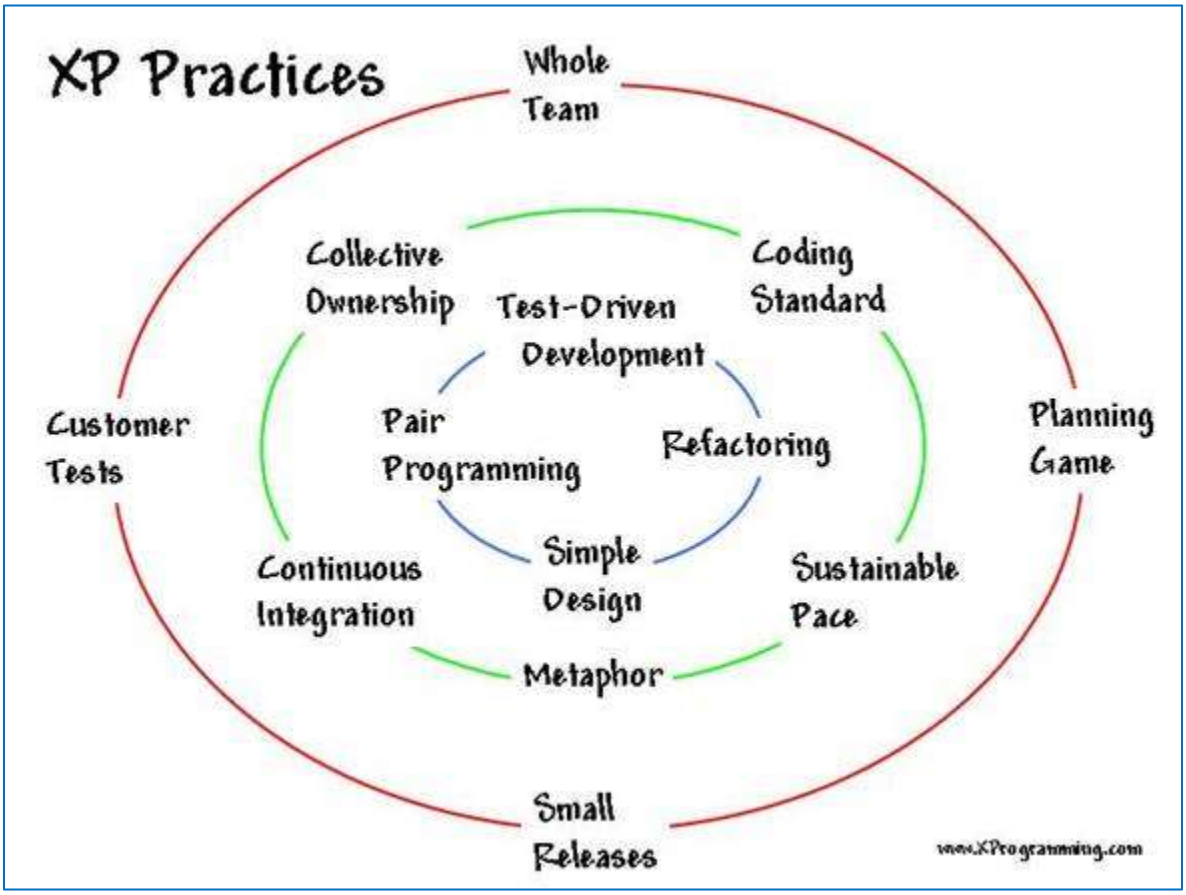
Respect

- Team members must respect one another
- Everyone is responsible for the success and or failure of the project
- Everyone works differently but must work together

What are the XP Team Roles?

- **Coach** –Mentor/guide/facilitator/communicator similar to the Scrum Master
- **Customer** –the individual who provides requirements priorities and direction for the project similar to the product owner
- **Programmer** –the developers who write the code
- **Testers** –Define and write the acceptability test

What are XP Practices?



Whole Team

- XP team members are collocated
- Generalizing specialist not role specialist
- Efficient and sharing of information

Planning games

- Planning games are just planning activities
- Release planning is the release of new functionality
    - No more than one or two releases per year
    - The customer outlines the functionality required in the release
    - Developers estimate the difficulty to build the functionality
- Iteration planning is similar to sprint planning
    - Iteration planning happens at the start of every iteration
    - The customer defines what functionality they want to see by the end of the iteration
    - The development team estimates the difficulty to build the functionality

Small Releases

- Small releases to a test environment are part of the XP practices
- Increases visibility to the customer
- Helps to deploy working software to the end users

Customer Tests

- Definition of the required functionality
- Description of one or more test criteria for the software to be working

Collective Ownership

- Any pair of developers can improve or amend the code
- Multiple people will work on all the code
- Improve defect resolution in discovery
- Knowledge is shared not isolated

Coding Standard

- A coding standard is defined
- The team adheres to the standard
- Provides for consistency in writing the code

Sustainable Pace

- Productivity is optimized through a sustainable pace
- Consistent overtime and long hours are not sustainable

Metaphor

- Metaphors and similes are used to explain designs
- Metaphors help communicate the software to the customer

Continuous Integration

- Compiling the code frequently throughout the day
- Programmers check-in code to the code repository
- Integration test run automatically for immediate feedback

Test Driven Development

- Acceptance test are written prior to developing new code
- Initial tests will fail because the code has not been fully developed yet
- When the code has been written correctly it will pass the test

Refactoring

- Cleaning up the code
- Removing duplicated code
- Lowering coupling
- Increasing cohesion

Simple Design

- What is the simplest thing that could work?
- Simple does not mean easy
- Simple design is a risk mitigation approach

Pair Programming

- One person writes the code while the second person reviews the code
- The two people change roles frequently
- The pair will catch mistakes and speed up productivity

What is Continuous Integration and Continuous Development?

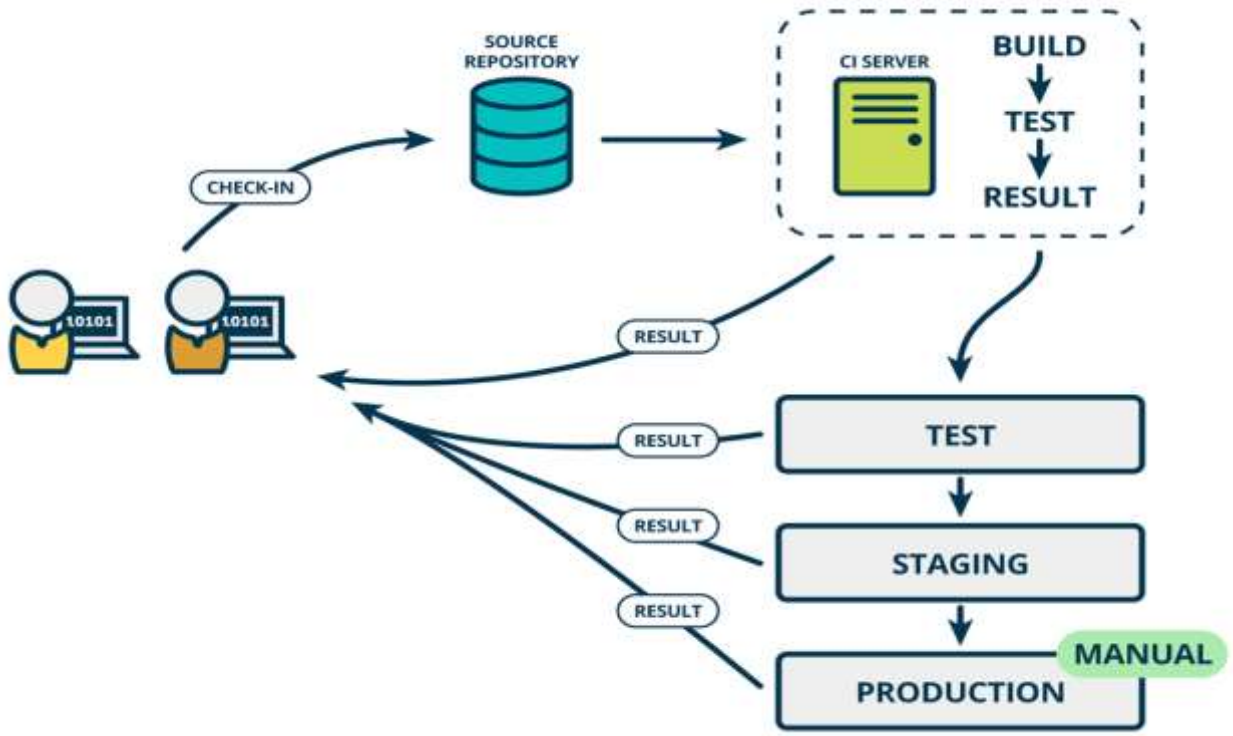
Continuous integration

CI is a process whereby developers and testers validate the newly written code frequently. The developers check in their code to the mainline branch at least once a day, or multiple times a day. Every check-in triggers a build, and all the unit tests are run. If the build fails, notification is sent to all the developers and the new code is rolled back automatically.

Here, the tests help as a safety net to capture any bugs that were inadvertently introduced. All tests should run to confirm that the application behaves as the developers expect it to behave. A huge advantage to this process is that bugs are caught as soon as they are introduced, and the compatibility of everyone's code is tested. You always have the latest working version of the code.

Continuous delivery

CD takes CI one step further. After a build and automated unit tests run successfully, you automatically or manually deploy the application to a test, stage, or production environment. Doing this automatically pushes the envelope one step further and is called continuous deployment. CI and CD are the basic recipes for implementing successful DevOps (yes, you have heard and read that term too many times in the recent past) practices in an organization. Often CICD is the toughest portion to implement in DevOps.



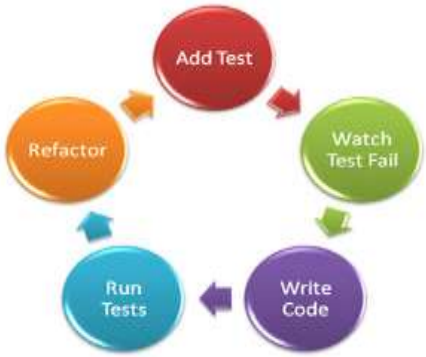
What is TDD & BDD?

Test Driven Development (TDD)

TDD is a software development technique that involves writing automated test cases prior to writing functional pieces of the code. This is popular in agile methodologies as it drives delivering a shippable product at the end of a sprint. This process can be divided into multiple steps:

- A developer, based on requirement documents, writes an automated test case.
- The development team runs these automated test scripts against what is currently developed and the tests fail, as they should since none of the features have been implemented yet.
- development team functional code to ensure the automated test script gives them a green light.
- The development team can then refactor and organize the code to produce a tested deliverable at the end of the sprint.

Test cases are mostly written in programming languages such as Java, Ruby, etc. and can be written using test automation tools such as Selenium, Watir, Windmill, etc. Since test scripts are written in programming languages, it is hard for a business analyst or test owner to verify the test scripts.

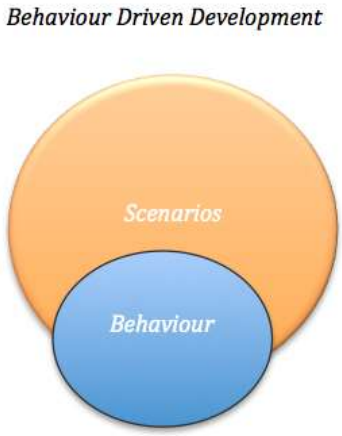


Behavior Driven Development (BDD)

BDD is a software development technique that defines the user behavior prior to writing test automation scripts or the functional pieces of code. Used in an agile sprint, this method ensures that a shippable product is generated at the end of a sprint. This involves:

- Behavior of the user is defined by a product owner/business analyst/QA in simple English.
- These are then converted to automated scripts to run against functional code.
- The development team then starts writing the functional code to ensure the automated test script gives them a green light.
- The development team can then refactor and organize the code to produce a tested deliverable at the end of the sprint.

BDD can be driven by multiple tools such as Cucumber, FitNesse, PowerTools, Docker, etc. The test scripts are written in plain English in Gherkin, Wiki frameworks, etc. Since the behavior is defined in English, it gives a common ground for ALL stakeholders involved in the project. This reduces the risk of developing code that wouldn't stand up to the accepted behavior of the user.



TDD vs. BDD

BDD is in a more readable format by every stake holder since it is in English, unlike TDD test cases written in programming languages such as Ruby, Java etc.

BDD explains the behavior of an application for the end user while TDD focuses on how functionality is implemented. Changes on functionality can be accommodated with less impact in BDD as opposed to TDD.

BDD enables all the stakeholders to be on the same page with requirements which makes acceptance easy, as opposed to TDD.

For systems that are driven by actions of the end user such as an ecommerce website or a HR system, BDD acts as a good medium to capture all the user actions. For systems that have third party API calls, cron jobs, data exports/imports, etc., TDD might be a better solution.

What is Technical Debt?

Technical Debt is the cost of shortcuts that accumulate over time, leading to:-

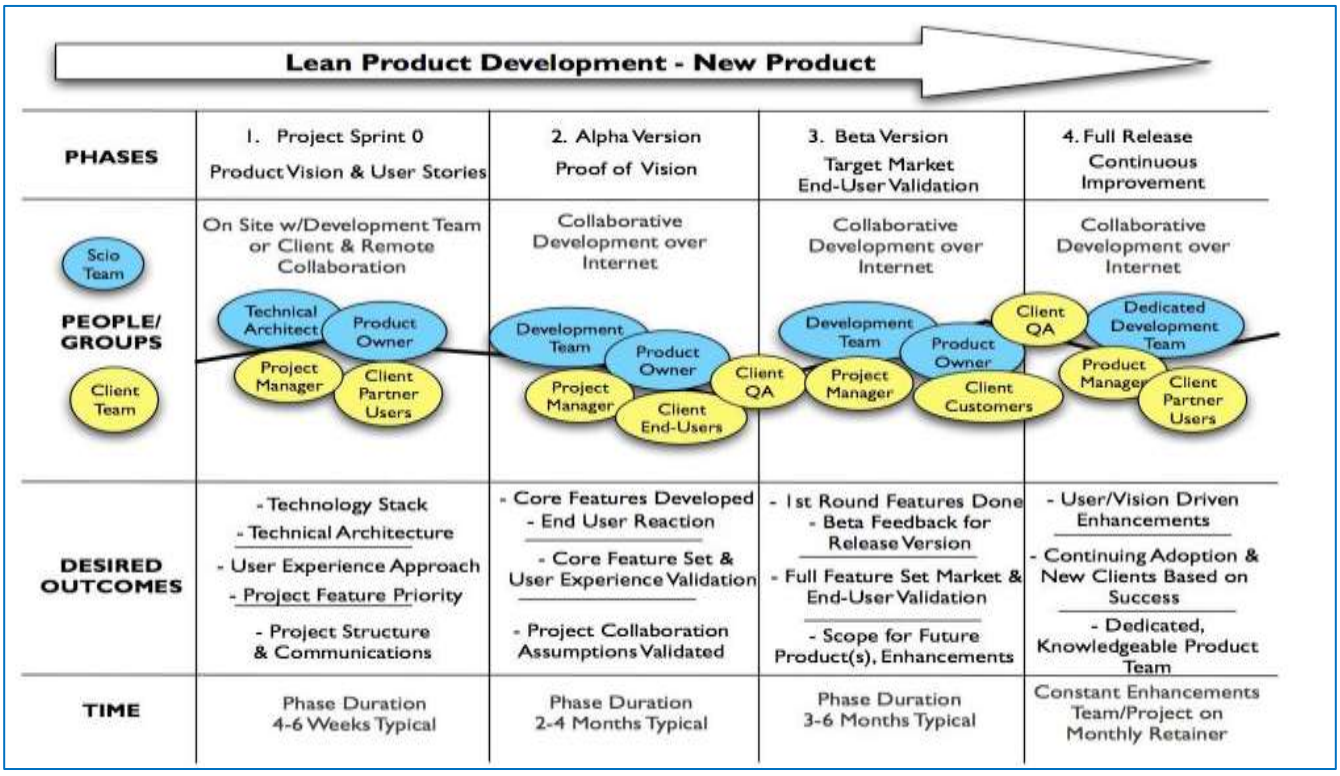
- Increased risk
- Slower time to market
- Greater maintenance & enhancement cost

Lean Kanban

Lean

What is Lean Product Development?

- Lean is a set of principles that have been taken from lean manufacturing approaches and applied to software development
- Lean is not an agile methodology but agile values are closely aligned.
- Toyota production system
- Visual management tools
- Customer to find value
- Learning and continuous Improvement



What are the Seven Lean Core Concepts?

- Eliminate waste
- Empower the team
- Deliver fast
- Optimize the whole
- Build quality in
- Defer decisions
- Amplify learning

What are the Seven Wastes of Lean?

- Partially done work
- Extra processes
- Extra features
- Task switching
- Waiting
- Motion
- Defects

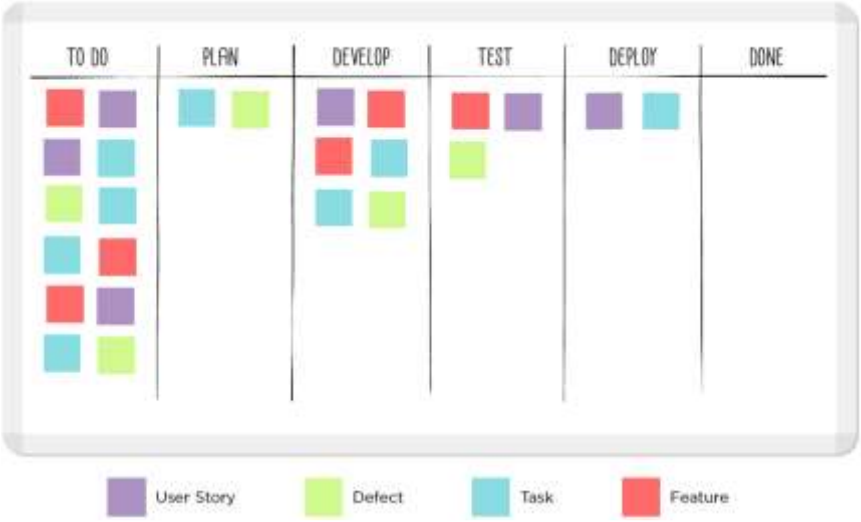
Match the Agile Practices to Lean Development?

Agile Practice	Lean Principle						
	Eliminate waste	Empower the team	Deliver fast	Optimize the whole	Build quality in	Defer decisions	Amplify learning
Teams make their own decisions		✓					
Just-in-time iteration planning						✓	
Team retrospectives							✓
Two-week iterations			✓				
Unit test as we go					✓		
Shadow the business to learn what they do				✓			
The evolving prototype is the specification	✓						

Kanban

What is Kanban?

- Japanese word that means sign board
- The signboard has categories of work for each stage of the production process



What are the 5 Principles of Kanban?

- Visualize the workflow
- Limit work in progress
- Manage flow
- Make process policies explicit
- Improve collaboratively

Visualize the workflow: Knowledge worker projects, by definition, manipulate knowledge, which is intangible and invisible. Therefore, having some way to visualize the workflow is very important for organizing, optimizing, and tracking it.
Limit WIP: Keeping the amount of work in progress low increases the visibility of issues and bottlenecks and in turn facilitates continuous improvement. It creates a pull system of work through the development effort, reduces costs associated with changes, and minimizes sunk costs.
Manage flow: By tracking the flow of work through a system, issues can be identified and changes can be measured for effectiveness.
Make process policies explicit: It is important to clearly explain how things work so the team can have open discussions about improvements in an objective, rather than an emotional or subjective, way.
Improve collaboratively: Through scientific measurement and experimentation, the team should collectively own and improve the processes it uses.

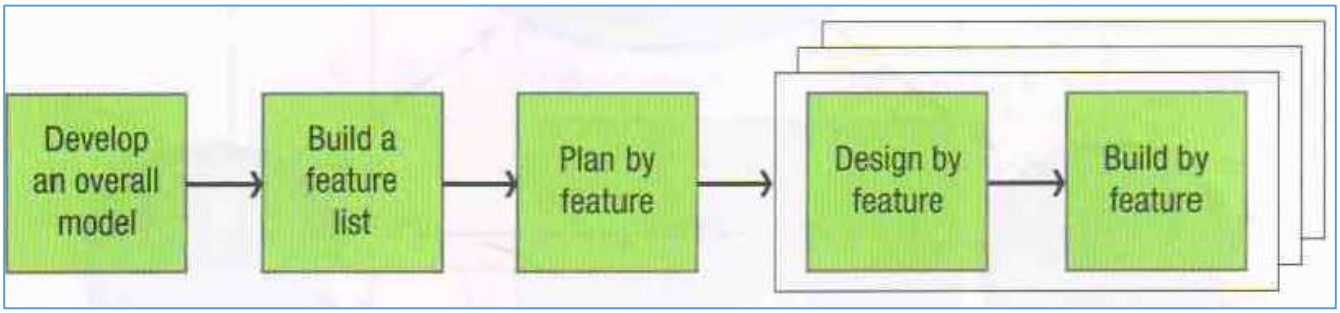
What is Kanban Pull system?

- A pull system moves work through development
- The development team completes an item; the next item in queue is pulled into the next stage of the process
- Kanban does not use timeboxed iterations
- Only so many items can be in each stage of the project
- Work moves from left to right

Feature Driven Development (FDD)

What is FDD?

- The development team creates a model for the product
- They will build a feature list and a plan for the work
- The team moves through the design and build the directions for the product features
- The team designs by features and builds by features



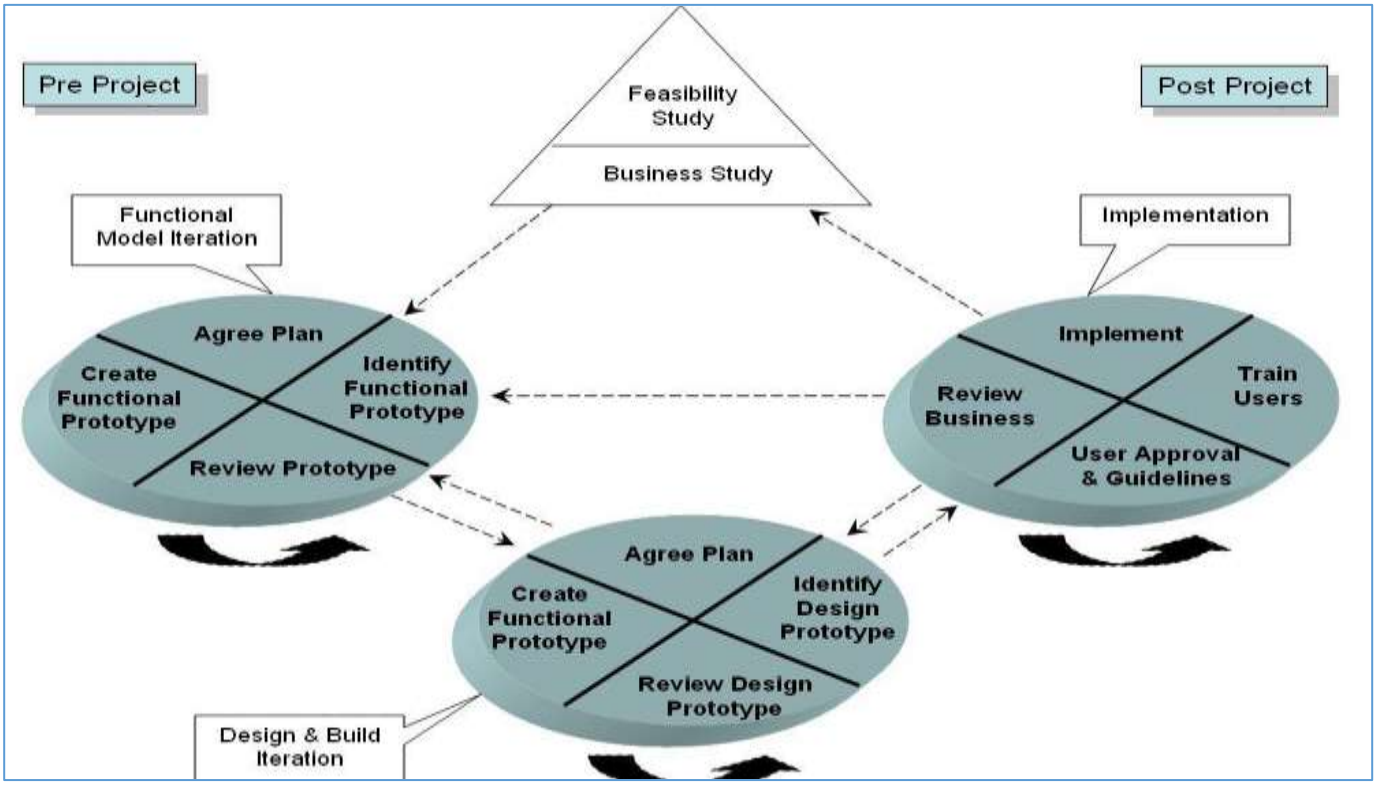
What are its Features?

- Domain object modeling
- Developing by feature
- Individual class code ownership
- Feature teams
- Inspections
- Configuration management
- Regular builds
- Visibility of progress and results

Dynamic System Development Method (DSDM)

What is DSDM?

- Focus on the business need
- Deliver on time
- Collaborate
- Never compromise quality
- Build incrementally from foundations
- Develop iteratively
- Communicate continuously and clearly
- Demonstrate control

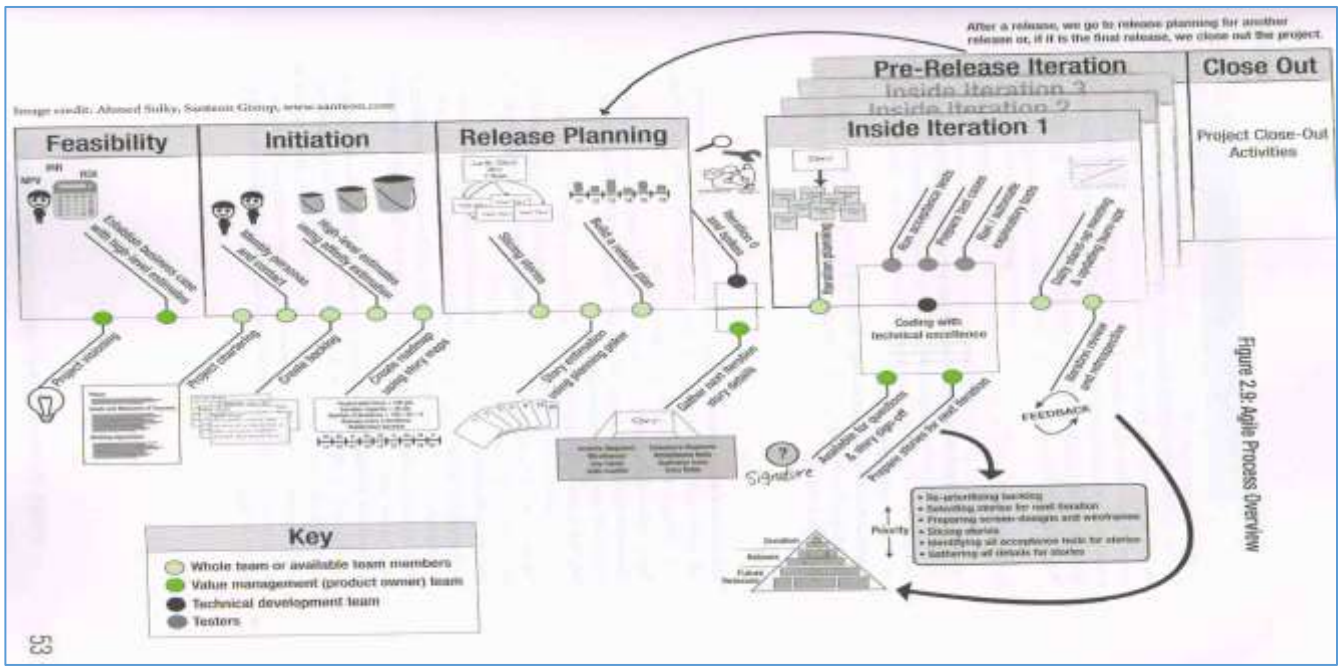


Crystal

What is Crystal?

- Customized methodologies coded by color names
- Methodologies are appropriate for different criticalities and team sizes
- Criticality is about the impact of a product defect design

Explain Agile Process Overview Chart?



What are the Professional Responsibility and Ethics?

Responsibility

- Make decisions based on the interests of the company
- Protect proprietary information

Respect

- Maintain the attitude of mutual co-operation
- Respect cultural differences
- Negotiate in good faith
- Deal with conflict directly
- Don't use your position to influence others

Fairness

- Look for and disclose conflict of interest
- Don't discriminate

Honesty

- Understand the truth
- Be truthful of all communications

Agile Framework Practice Questions

1. What attribute of agile equates to trust with the project team and other stakeholders?

A. Inspection.

B. Adaption.

C. Transparency.

D. Honesty.

Ans: C. Transparency equates to trust is an agile principle core to the agile mindset. Choices A, B, and are incorrect choices for this question.

2. What type of processes are best described as incremental, interactive, and adaptive?

A. Empirical.

B. Defined.

C. Project management.

D. Agile.

Ans: A. Empirical processes are interactive, incremental, change often, adapt, and pass through the reviews; they are change-driven. Choices B, C, and D are incorrect choices for this question.

3. Both has just started a new job with the ABX Company. She has years of experience working on agile projects as Scrum Master. The ABX company currently doesn't use agile approaches, but they may like to eventually. In this scenario, Beth is likely to feel which one of the following?

A. Excited.

B. Sad.

C. Scared.

D. Frustrated.

Ans: D. An individual with an agile mindset will feel frustrated if the remainder of the organization doesn't embrace agile. A, B, and C are incorrect choices for this question.

4. Which one of the following statements best describes being agile?

A. Forcing agile practice.

B. Choosing correct practices.

C. Command and control.

D. Understanding agile.

Ans: B. Choosing correct practices is an example of being agile. A, C, and D are incorrect choices for this question. Note that you can understand agile without being agile

5. As a PMI-ACP candidate you must be familiar with the Agile Manifesto. What does the Agile Manifesto value over processes and tools?

A. Individuals and interactions.

B. Working software.

C. Customer collaboration.

D. Responding to change.

Ans: A. The Agile Manifesto values individuals and interactions over processes and tools. For your PMI-ACP exam be quite familiar with the Agile Manifesto. Choices B, C, and D, are incorrect choices for this question.

6. What's the best way to satisfy customers in an Agile project?

A. Communication on a regular basis throughout the project.

B. Involving the customers as part of the project team.

C. Early and continuous delivery of valuable software.

D. Deliver on time and on budget.

Ans: C. This is based on the first principle behind the Agile Manifesto: Our highest priority is to satisfy the customers through early and continuous delivery of valuable software. A, B, and D are incorrect choices for this question.

7. There are five scrum ceremonies. Which one of the following is not a scrum ceremony?

A. Project backlog refinement.

B. Sprint planning meetings.

C. Daily scrum.

D. Sprint reviews.

Ans: A. There is no project backlog refinement; rather there is product backlog refinement. The five scrum ceremonies are: Product backlog refinement, Sprint planning meetings, Daily scrum, Sprint reviews, Sprint retrospective.

8. Which core value of XP is demonstrated through pair programming?

A. Feedback.

B. Courage.

C. Simplicity.

D. Respect.

Ans: B. Of all the choices, courage is the best answer. Team members can see one another's code as it is being written and that takes courage. Choices A, C, and D are incorrect choices for this question.

9. Who creates the product vision in an agile project?

A. Scrum Master.

B. Product owner.

C. Development team.

D. Customer.

Ans: B. The best answer is that the product owner creates the product vision. A, C, and D are incorrect choices for this question.

10. Servant leadership is a big part of Agile practices. In order to be an effective servant leader you must do all of the following except for which one?

A. Carry food and water.

B. Remove impediments.

C. Provide what team members need.

D. Clean up the project war room.

Ans: D. Of all the choices, cleaning up after the project team isn't the best option for a servant leader's time and contribution. Choices A, B, and C are incorrect choices for this question.

Lesson 3 VALUE DRIVEN DELIVERY

Topics to Discuss

- Value Driven Delivery
- Assessing values in Agile Projects
- Prioritizing Values in Agile Projects
- Incremental Delivery
- Contracting in Agile Projects
- Value, Verification & Validation

What are the Value Driven Delivery Tasks?

- Plan work incrementally
- Gain consensus on just in time acceptance criteria
- Tune process to organization team and project
- Release minimal viable product
- Work in small batches
- Review often
- Prioritize work
- Refactor code often
- Optimize environmental operational it infrastructure factors
- Review and checkpoint often
- Balance value and risk

- Reprioritize to maximize value
- Prioritize nonfunctional requirements
- Review and improve the overall process and product

What is Value Driven Delivery?

- Projects exist to create business value
- The project manager's goal is to increase value and reduce risk as early as possible
- Value-driven delivery has the most weight of the business existence

How will you deliver early in the project?

- Based on prior translation value is delivered first
- The longer a project lasts the more opportunity for risk
- By delivering high-value items early, the team demonstrates an understanding of the customers needs
- Early value help stakeholders maintain synergy an interest in the project

Is it minimizing waste is a constant goal?

- Waste reduces value
- Poppendieck's Seven Areas of Waste:
    - Partially done work
    - Extra processes
    - Extra features
    - Task switching
    - Waiting
    - Motion
    - Defects

Assessing Values in Agile Projects

Value is Expressed in Financial Terms

What is ROI?

- Return on investment is the profitability in a project
- Return on investment is the value of the project minus the investment in the project
- A higher return on investment means you are getting a better return then a lower return –bigger is better
- Return on investment is not the best approach to discovering business value in a project

What is Present Value?

The calculation of a future amount in today's terms given and assumed interest rate and inflation rate

What is Net Present Value?

- The present value of a revenue stream over a series of time periods
- Higher net present values are good

What is IRR?

- Calculates the NPV of the cost of the project and when the NPV of the project meets or exceeds the NPV of the benefits of the project
- The higher the IRR the more valuable the project is

What is EVM for Agile Projects?

- It's unlikely you'll see earned value management on the exam
- EVM is a suite of formulas to show performance
- Earned value compared to actual performance to planned performance

EVM Calculation?

Consider a scenario

BAC = $100,000 for the entire project

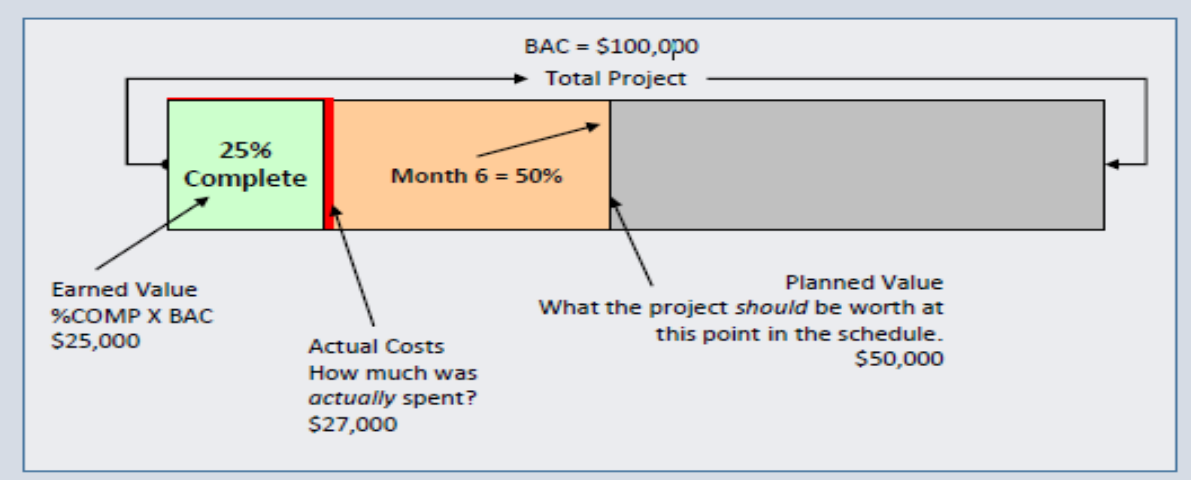
As of now EV = $25,000 AC=$27,000 PV=$50,000

Finding the variance

- Cost Variance = EV-AC = 25,000-27,000 = -2,000
- Planned Variance= EV-PV = 25,000-50,000 = -25,000

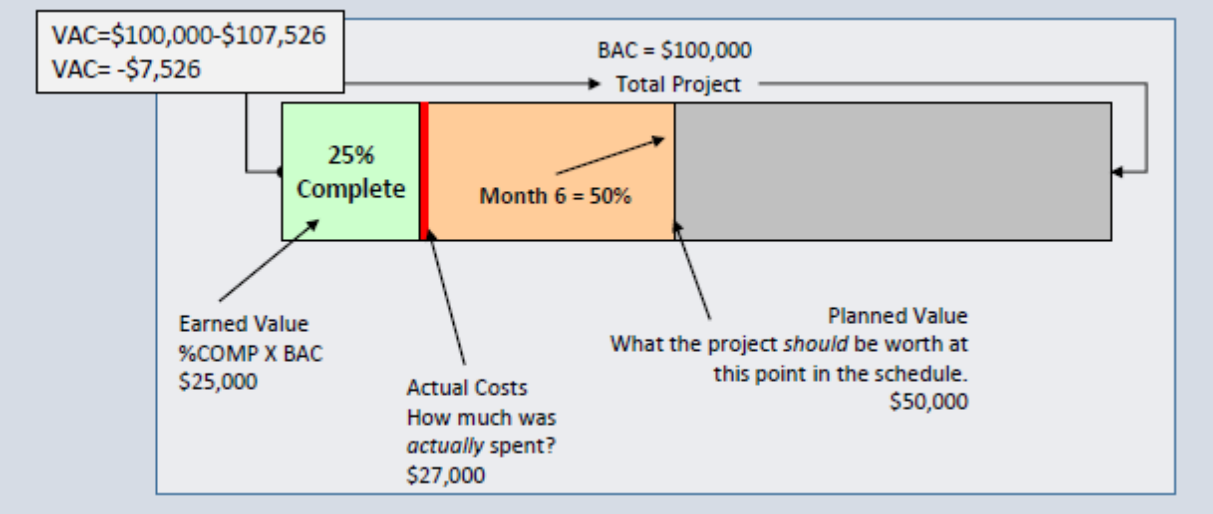
Measuring the performance

- Cost Per Index = 25,000/27,000 = .93
- Schedule Per Index = 25,000/50,000 = .50



Estimate at completion EAC = BAC / CPI **EAC=$100,000/.93 =$107,526**

Estimate to Complete ETC= EAC – AC **ETC=$107,526-$27,000 =$80,526**



EAC in Action

EAC Formulas							
CPI will remain the same	BAC	CPI	Result				
BAC/CPI	1,000,000	0.89	$1,125,000.00				
Trends will continue	AC	BAC	EV	Result			
AC+BAC-EV	450,000	1,000,000	400,000	$1,050,000.00			
Future work estimate is no longer valid	AC	ETC	Result				
AC+ETC	450,000	675,000	1,125,000				
Weight values for SPI or CPI	AC	BAC	EV	CPI	SPI		Result
AC+[(BAC-EV)/(CPIxSPI)	450,000	1,000,000	400,000	0.89	0.80	$	1,293,750.00

To Complete Performance Index (TCPI)

Efficiency needed to meet BAC: TCPI=(BAC-EV)/(BAC-AC)

TCPI=($100,000-$25,000)/($100,000-$27,000) = 75,000/73,000 =1.0273

Efficiency needed to meet EAC: TCPI=(BAC-EV)/(EAC-AC)

TCPI=($100,000-$25,000)/($107,526-$27,000) =75,000/80,526 =.93

Note: -

Great than 1, hard to accomplish | Exactly 1, same level of efficiency | Less than 1, easier to accomplish

Story Points & EVM

- Can use Story Points instead of dollars
- Planned to complete 20 story points
- Completed 18 instead
- SPI=EV/PV =18/20 =.90

What is 5 EVM rules?

- EV is first
- Variance means subtract
- Index means division
- Less than one is bad in an index
- Negative is bad in a variance

What is Agile Project Accounting?

- Agile accounting defines the economic models of agile projects
- Project work and smaller chunks of a larger project
- Smaller chunks of work are less risky
- Agile project accounting is accountability of what was invested in relation to the value of the return on investment

What is Key Performance Indicators?

- Key performance indicators are metrics to show how well the project is performing
    - Rate of progress
    - Remaining work
    - Likely completion date
    - Likely cost remaining

How will you manage the risk in an Agile Projects?

- Risk in an agile project is anything that threatens the project's goals
- Risk is considered an anti-value
- Risk must be managed in a project
- Risk identification is an iterative activity

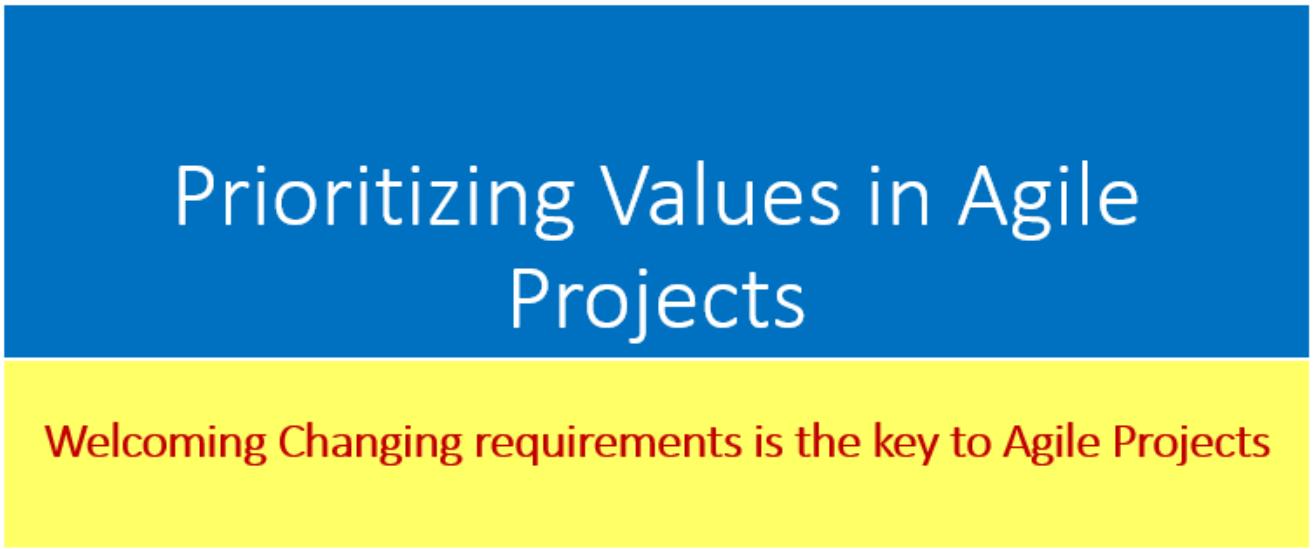
- Risk a recorded in a risk along

How would you address the feature with high risk?

- Features that have high levels of risk can be addressed early in project iteration
- High areas of risk need to be addressed sooner rather than later
- A risk-adjusted backlog brings risk features into an early portion of the project
- A risk burndown chart tracks risk as they move down in priority and elimination

What are the regulatory compliance for agile projects?

- Regulations are requirements
- Regulatory compliance is one instance for documentation where just because is utilized



How will you prioritize the customer value?

- Agile teams work on the items that yield the highest value to the customer first
- The product owner is responsible for keeping items in the backlog prioritized by business value
- When changes added to backlog, they must be prioritized for value
- The customer is the person who will declare what success looks like
- The team will discuss with the customer at the end of each iteration the priority of the remaining work items

How will you prioritize the schemes?

- How the work is prioritized
- The team agrees on the prioritization scheme
- The prioritization scheme is communicated and agreed upon by the entire agile team

What is the simple technique for prioritization?

- Items in the product backlog are ranked:
    - Priority one (high)
    - Priority two (medium)
    - Priority three (low)
- This approach has a risk that everything is ranked as priority one

What is MoSCoW Prioritization Scheme?

- Made popular by DSDM
    - Must have
    - Should have
    - Could have
    - Would like to have, but not at this time

What is Monopoly money?

- Stakeholders receive monopoly money equal to the amount of the project budget
- The monopoly money is distributed among the system features
- This approach is most effective when it's limited to prioritizing business features

What is 100 Point method?

- Each stakeholder is allotted 100 points
- The points are assigned to the most important requirements

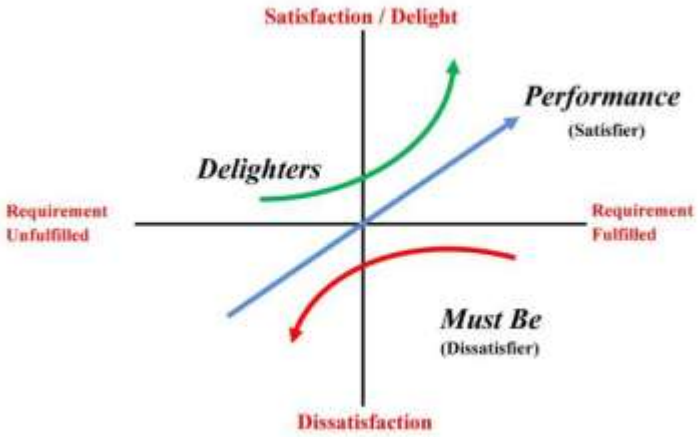
What is Dot Voting or Multi Voting?

- Stakeholders gets a predetermined amount of dots
- Dots are assigned to the business features

- Dots could be check marks or stickers

What is Kano Analysis?

- Delighters exciters
- Satisfiers
- Dissatisfiers
- Indifferent



What are requirements at prioritization level?

- Uses a scale of 1 to 9
- Benefit penalty cost and risk of every feature is rated

What are the relative prioritizing ranking?

- Priority of features
- Simplest the features from most important to least important
- Determination made to meet budget and schedule
- Changes may change the prioritize list
- Changes may bump some priorities from the list

Incremental Delivery

Optimizing the value of delivery

What is Incremental delivery?

- The team regularly deploys working increments
- Usually to a test environment for evaluation
- This is an opportunity for an early return on investment

What is Minimum Viable Product?

- Complete enough to be useful
- Small enough that it does not represent the entire project
- Also known as the minimal marketable feature
- Barebones essentials of a product

What is Agile Tooling?

- Agile teams prefer low-tech high-touch tools over-sophisticated computerized models
- Technical tools can exclude team members from interacting
- Consider high-tech tools for scheduling:
    - Data accuracy perception increases
    - A bad estimate is a bad estimate
    - Barriers for stakeholder interaction are created

Examples of Low-Tech & Hi-Touch tools?

- Cards

- Charts
- Information radiator
- Tools that promote communication and collaboration
- Tools that promote learning and knowledge transfer

Compare Scheduling Software Vs Kanban board?

- Also known as a task board
- Help teams monitor the work in progress

What is Work In Progress?

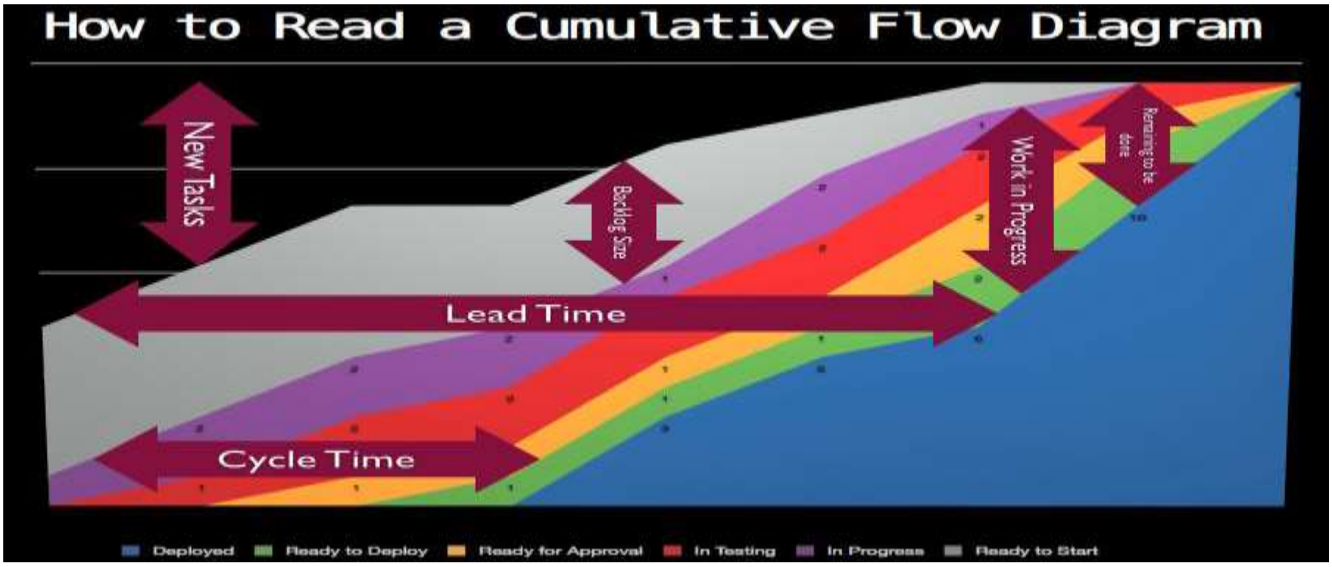
- Also known as a work in process and work in play
- WIP is risk
- WIP hides bottlenecks
- WIP requires investment but delivers no return until the work is complete
- WIP needs to be limited

Why do we limit Work In Progress?

- Agile attempts to limit WIP
- Kanban boards can have WIP limits
- WIP limits keeps the team from taking on too many pieces of work
- WIP limits reveal bottlenecks

What is CFD?

- Cumulative flow diagrams help tracking and forecasting the delivery of value
- Reveals the total in progress and completed work



What are the bottlenecks & theory of constraints?

- A constraint is anything that limits your options
- Time, cost, and scope are typical constraints
- Constraints can be throughput of capacity
- A thin line in a cumulative flow diagram can reveal a bottleneck

What is Goldratt's Theory Of Constraints?

- Five Focusing Steps Of Goldratt's Theory Of Constraints
- Identify the constraint
- Exploit the constraint
- Subordinate all other processes to exploit the constraint
- If after steps two and three is done more capacity is needed to meet demand elevate the constraint
- If the constraint has not moved go back to step 1

Contracting Agile Projects

Exploring Agile Project Contracts

What is Request for Proposal?

- A request for proposal is from the buyer to the seller
- If the seller is to use a agile practices it must be defined in the request for proposal
- The buyer may need to educate the vendor about agile practices
- Agile project welcome change so this may be hard to do with contracts

What is Agile Constraints?

- Agile is flexible
- Contracts are not flexible
- Contracts are a form of a constraint
- Contracts are constrained by an offer and a consideration
- Collaboration over contracts
- Agile projects constrain time and cost
- Agile project allows the scope to change
- Contracts typically constrain and balance time cost and scope

What are the consideration for contracts?

- Scope changes
- Priorities
- Time and cost

What is Fixed Price Contract?

- Both parties share some of the risk and reward
- If a vendor delivers on-time they get paid for their work at the hourly rate
- If the vendor delivers early they get paid for their work but at a higher hourly rate
- If the vendor delivers late they get paid for their work but at a lower

What is Fixed Price work packages?

- The price of the work remains constant
- Individual work packages are estimated for cost
- Changes to the scope reflect a new estimate for those work packages

How will you customize the contracts?

- The buyer and the seller can make any agreement they want
- Procurement is always tricky with agile projects

What is Gulf of evaluation?

- The difference between what is said and what is understood
- Intangible projects often experience this gulf
- What does done looks like?

What is frequent Verification & Validation?

- Testing checkpoints and reviews
- Frequent verification and validation happened throughout the project
- Build consensus between the project team and the project stakeholders

Examples of Verification & Validation in XP?

- Pair programming
- Unit testing
- Customer collaboration
- Stand up meetings
- Acceptance testing
- Iteration demonstrations
- Product release

What is Exploratory Testing?

- The tester aims to discover issues and unexpected behavior
- The tester explores the software
- This is in addition to scripted testing

What is Usability Testing?

- How will a user respond to the system under realistic conditions?
- How easy is it to use the system?
- What improvements need to be made for usability?

What is Continuous Integration in Agile Project?

- Incorporate new and changed code into the code repository
- Small code commits
- Frequent integration
- Relies on automated tools to integrate code when new code is checked in

What is Continuous Integration System?

- Source code control system –version control
- Build tools –build tools compile the code
- Test tools –unit test to ensure functionality operates as expected
- Scheduler or trigger –builds are launched on a schedule or based on conditions
- Notifications –an email or instant message reporting on the results of a build

Why Continuous Integration?

- Early warning a broken conflicting or incompatible code
- Problems are fixed as they occur
- Immediate feedback
- Frequent unit testing defines issues quickly
- Easy to reverse the code back to the last known good

What the disadvantages of Continuous Integration?

- Set up time is lengthy
    - Often called Iteration 0
- Cost of a dedicated server
- Time required to build a suite of automatic tests

How will you explore the test-driven development?

- Also called test first development
- Test are written before the code is written
    - Nunit
    - Junit
- Code is developed and edited until the code passes all tests
- Refactoring is the final step to clean up the code

What is Test Driven Development?

- Red –green –re-factor
- Red –green –clean
- Focus on the test first
- Early testing helps catch defects early in development
- Beware of developers writing their own test

What is Acceptance Test Driven Development? What its Life Cycle?

- Testing focus is on business requirements
- Test represent the functionality the software is to have
- It's all about the desired behavior
- FIT –framework for integrated testing
    - Also called FitNessee
    - http://www.fitnesse.org/
- Discuss the requirements –developers as the product owner questions that are designed to gather acceptance criteria
- Distill test in a framework friendly format –gets the test ready to be entered into the acceptance test tool
- Developed the code and run the test –test initially fail because the code hasn't been written completely
- Demo –with automated acceptance testing scrips and demonstrations of the software

Value Driven Delivery Practice Questions

1. You are a Scrum Master for your organization and you are attending an industry tradeshow. As a representative of Agile, you were asked to explain in brief what value-driven delivery is, which of these will you say?

A. Maximization of values delivered to stakeholders while at the same time ensuring non-value-added work.

B. The reaching of consensus on the acceptance criteria of the deliverables.

C. Soliciting feedback from stakeholders and reviewing frequently to enhance value.

D. Having knowledge about delivering valuable results by producing high-value increments for reviews based on stakeholders' priorities.

Ans: D. Of all the choices presented, D is the best answer. Having knowledge about delivering valuable results" is in concordance with Agile terms and language. Choices A, B & C are incorrect.

2. Which of the divisions listed below is contained in the four basic subdivisions of Value driven delivery?

I Incremental Development
II Risk control
III Prioritization
IV Define Positive Value

A. I & II

B. I, II, III & IV

C. II, III & IV

D. III & IV

Ans: B. All of the choices listed above are the basic subdivisions of value-driven delivery. Value-driven delivery includes incremental development, risk control, prioritization, and defining positive value.

3. In a scenario whereby Company X, Y and Z are dealers on same products. Where Z represents Agile, as Agile active team member, how can you utilize competitive advantage over others and realize value earlier?

A. Giving 20% discount to consumers.

B. Delivering work incrementally.

C. Organizing freebies often to stimulate customers' patronage.

D. Making use of the concept of minimally marketable features.

Ans: B. Delivering work incrementally to gain competitive advantage and early realization of value. Choices A, C & D are incorrect for this question.

4. As a well-informed, competence and diligent Agile team member, how many tasks are included in value-driven delivery for the PMI-ACP examination?

A. 10 B. 12 C. 14 D. 16

Ans: C. There are 14 tasks for value-driven delivery. These are:

- Plan work incrementally
- Gain consensus on just in time acceptance criteria
- Tune process to organization team and project
- Release minimal viable product
- Work in small batches
- Review often
- Prioritize work
- Refactor code often
- Optimize environmental operational in infrastructure factors
- Review and checkpoint often
- Balance value and risk
- Reprioritize to maximize value
- Prioritize non-functional requirements
- Review and improve the overall process and product

5. For a project to be successful and yielding, what are the necessary factors to consider or things to do, being an experienced Agile team member?

A. Putting some practices in place on how to handle a project.

B. Increasing the number of members in the intended team, to effect a quick accomplishment.

C. Refining project processes on the basis of the team's experiences and organization preferences.

D. Considering the retrospective team's achievements.

Ans: C. Refining project processes on the basis of the team's experiences. Choices A, B & D are incorrect for this question.

6. In terms of Agile project management, which of these appropriately defines prioritization?

A. The over-arching principle of the Agile project.

B. Delivering the highest value to the customers as early as possible.

C. The conformity of a product to a rule, as in specification, policy, standard or law.

D. The process where customers organize product backlog for implementation based on the perceived values.

Ans: D. Organizing a product backlog for implementation. Choices A, B & C are incorrect for this question. Earned Value Management is the correct answer. Choices B, C & D are incorrect for this question.

8. In an attempt to construct a perfect graph of Earned Value Management, what are the features that must be present in your graph?

A. Number of planned iterations in a release.

B. Planned story points in the release.

C. Planned budget for the release.

D. All of the above.

Ans: D. All of the aforementioned must be present in the graph. Choice A, B or C only is incorrect for this question.

9. The conformity of a product to a rule such as in specification, policy, standard or law is known as_____

A. Compliance.

B. Validation.

C. Verification.

D. Regulation.

Ans: A. Compliance is the correct choice. Choices B, C & D are incorrect for this question.

10. The term "Carver", according to the terminologies of Agile is best defined as a_____

A. The criticality, accessibility and vulnerability of the objective aspect and mission of a project.

B. Total story points completed in the actual measurement of EMV.

C. Document that formally begins the project created during initiation and include the project's justification.

D. None of the above.

Ans: A. The criticality, accessibility and vulnerability of the objective aspect and mission of a project are the right choice. Choices B, C & D are incorrect for this question.

Lesson 4 STAKEHOLDER MANAGEMENT

Topics to Discuss

- Working with the project stakeholders
- Establishing a shared vision
- Creating collaboration
- Communicating with project stakeholders
- Using interpersonal skills

What are the Stakeholders Engagement Tasks?

- Engage and empower business stakeholders
- Share information frequently with all stakeholders
- Form working agreements for participation
- Assess organizational changes to maintain a stakeholder engagement
- Used collaborative decision-making and conflict resolution
- Establish a shared vision for project stakeholders
- Maintain a shared understanding of project success
- Provide transparency for better decisions
- Balance certainty and adaptability for better planning

Who are the project stakeholders?

- Are impacted by the project
- Can impact the project
    - Customers
    - Project sponsor
    - Project leaders
    - Development team
    - Vendors
    - End users

How will you identify the stakeholders?

- Stakeholder analysis
- Expert judgment
- Meetings
- Create the stakeholder register

How will you plan the stakeholder Management?

- Expert judgment
- Meetings
- Analytical techniques
- Create the stakeholder management plan
- Update project documents

How will you manage the stakeholder Management?

- Communication methods
- Interpersonal skills
- Management skills
- Issue log
- Change request
- Project management plan updates
- Project document updates
- Organizational process assets updates

How will you control the stakeholder Management?

- Information management systems
- Expert judgment
- Meetings
- Work performance information
- Change request
- Project management plan updates
- Project document updates
- Organizational process assets updates

How will you keep the stakeholder engaged?

- Agile project worked with stakeholders
- Not command and control
- Consider servant leadership
- Identify project stakeholders as early as possible

How will you educate the stakeholder for agile projects?

- People new to agile projects need some basic education
- Address concerns directly with project stakeholders
- Explain the approach that will be used

How Stakeholder engagement get managed?

- Short iterations keep stakeholders involved
- Reviews and demos show the results of the work
- Agile places value of work that is done
- Agile is naturally visible for project stakeholders

How will you incorporate the stakeholder values?

- Work is based on what the stakeholders value
- Engage the product owner to prioritize the backlog
- Work is executed by priorities
- The development team creates the highest priority items
- The development team delivers early value to the business
- Stakeholders are invited to planning meetings and retrospective

How will you incorporate the community values?

- Agile teams must share the values of their broader community
- Respect
    - Agile works for consensus
    - Don't judge suggestions
    - Respect differing opinions
- Courage
    - Agile teams display courage through demonstrations
    - Pair programming
    - Product owner prioritizing requirements
    - Retrospective

What are the principles of Stakeholder engagement?

- Get the right stakeholders
- Insure a stakeholder participation
- Manage stakeholder interest
- Frequently discussed what done looks like
- Show progress to project stakeholders
- Openly discuss project estimates and projections

Creating a Shared Vision

Understanding what is requested and delivering what was requested

Why Agile will fail fast?

- Failing fast means failing early and cheaply
- Good way to discover misunderstandings
- Ensures the project team understands what stakeholders want

What is Agile Charter?

- Agile charters authorize the project and the project manager
- Agile charters are from the project sponsor
- Could be lightweight or very detailed
- Acknowledge change is likely in the actual project

What is the difference between Agile project charter and Traditional project charter?

- Traditional charters are very specific
- Agile charters are broad and high level
- Agile charters define:
    - Who will be engaged
    - What is the project about
    - Where will the project take place
    - When will the project start and end
    - Why this project being chartered
    - How the goals of the project be achieved

How will you create a Project “Tweet”?

- Project customers in the project team can work together to create a project tweet
- Describe the goal of the project in 140-280 characters or less
- This exercise defines a high-level description of the project
- Elevator statement

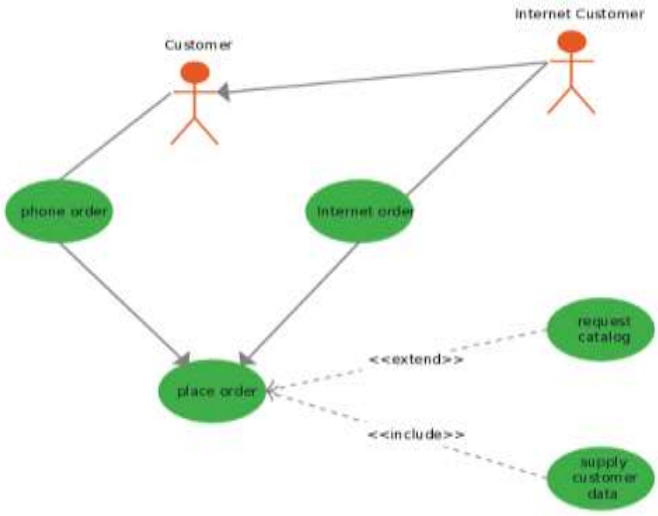
What does “Done” mean?

- Defining done is important for everyone
- An example of a shared vision
- User stories –done will mean developed documented and tested
- Releases –done means there are no large defects or remaining change requests
- Final project deliverables –priority features are implemented three months of trouble-free operation and satisfactory scores

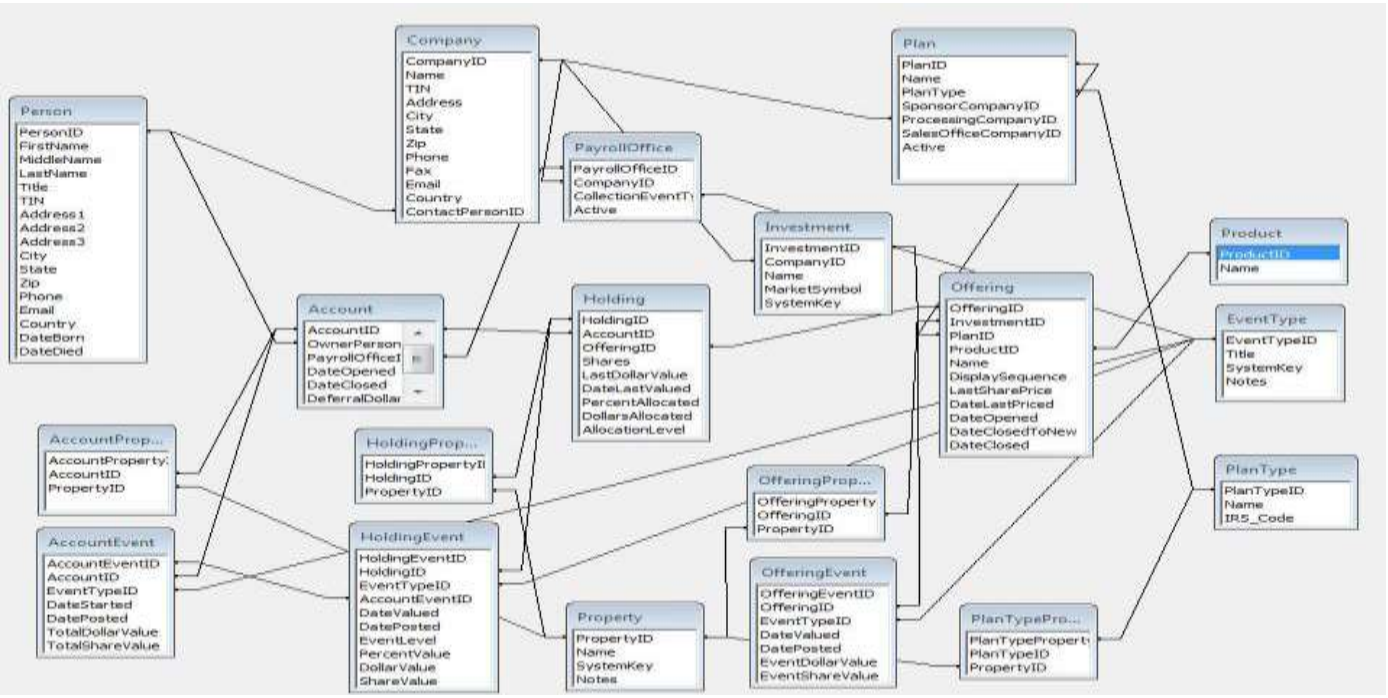
How will you work with Agile Modelling?

- Modeling techniques for agile projects
- The value is in discussion and creation of the model
- Often treated on whiteboards and photographs for a record
- Lightweight and barely sufficient

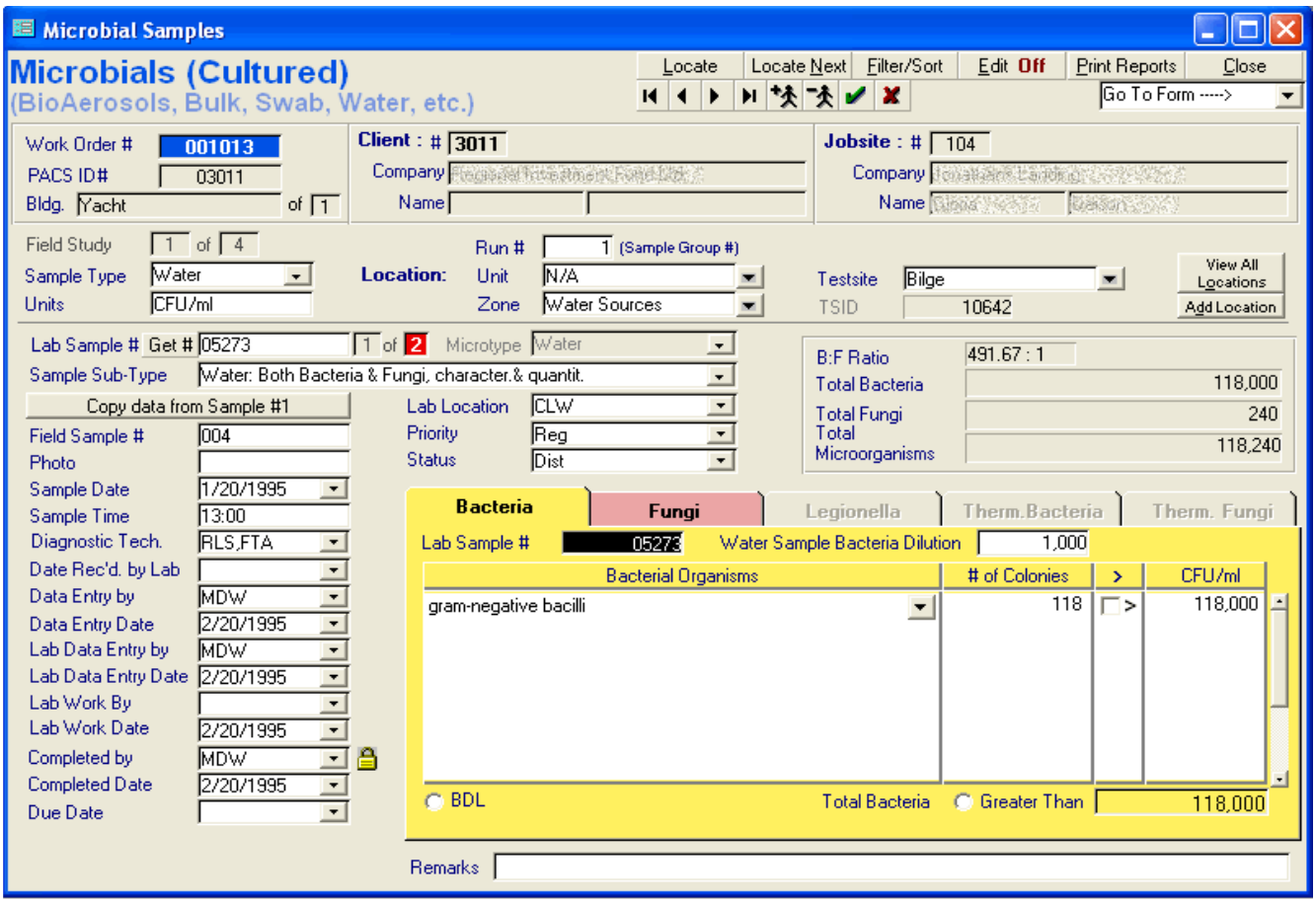
How the user will use the solution? Draw a Use Case diagram?



Sample Data Model



Screen Designs



What is Wireframes?

- A quick mock-up of a product
- Could be screens and data flows between screens
- Ensures that everyone has the same understanding of the product
- A form of low fidelity prototyping
- Quick way to get feedback

What is User Personas?

- Biographical sketches of key stakeholders
- Description of product users
- Somewhat grounded in reality
- Goal oriented
- Show tangible and actionable outcomes
- Focus on the users and who the users will be

How will you plan the communication management?

- Communication requirements analysis
- Communication technology
- Communication model
- Communication methods
- Meeting
- Create the communications management plan
- Update project documents

How will you manage the communications?

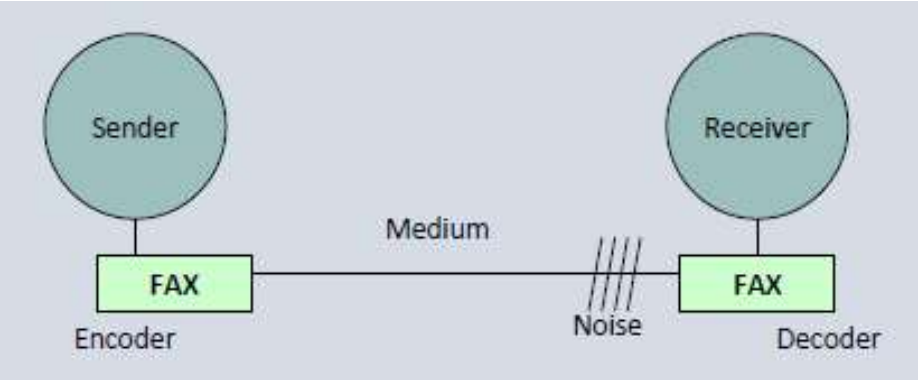
- Communication technology
- Communication models
- Communication methods
- Information management systems
- Performance reporting
- Communicate with stakeholders
- Update the project management plan project document organizational process assets

How will you control the communications?

- Information management systems
- Expert judgment
- Meetings
- Work performance information
- Change request
- Update the project management plan project documents and organizational process a set

What is Communication Model?

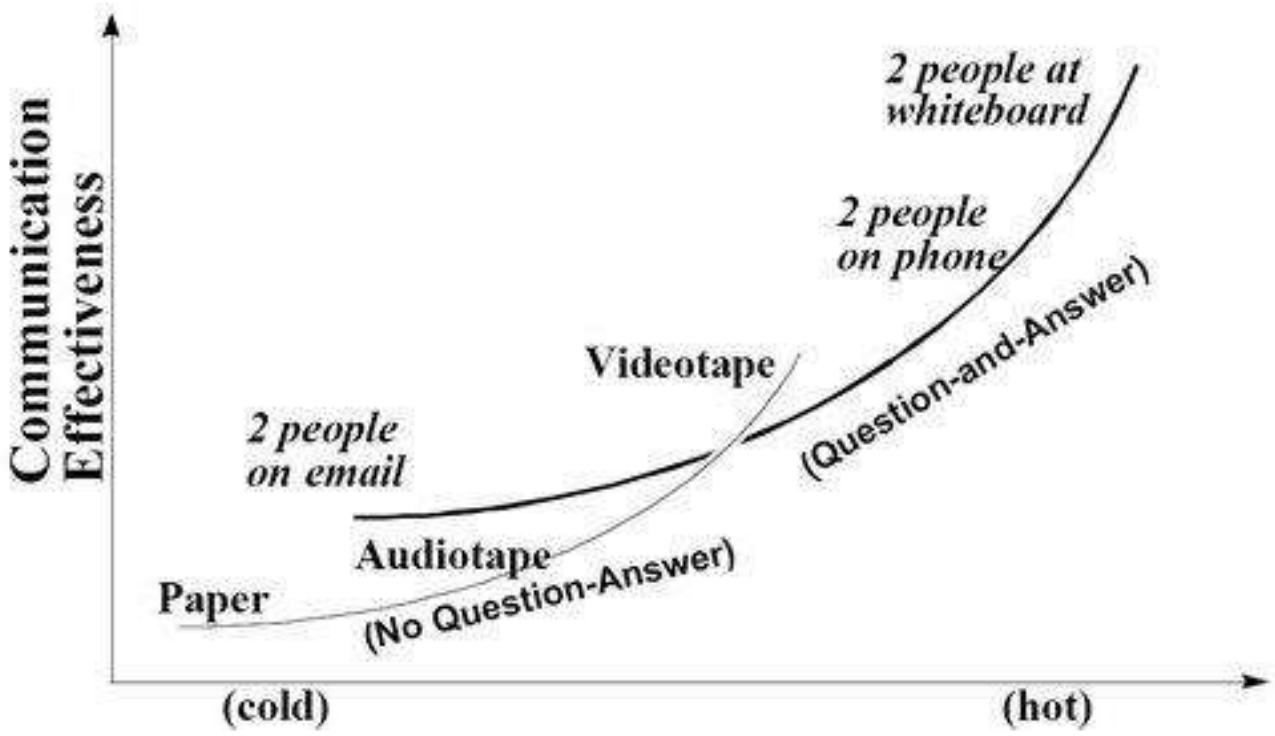
- Sender
- Encoder
- Medium
- Decoder
- Receiver
- Barrier
- Noise



What is Face to Face Communication?

- Face-to-face communication is preferred
- Highest bandwidth of all communication types

What are the effectiveness of different communication channels?



What are ways of sharing knowledge in agile projects?

- Knowledge sharing is critical for agile projects
- Share information with everyone
- Collective code ownership means any developer can edit any code at any time
- Agile practices promote knowledge sharing:
    - Kanban boards
    - Information radiators
    - Personas
    - Wireframes

What is two-way communication?

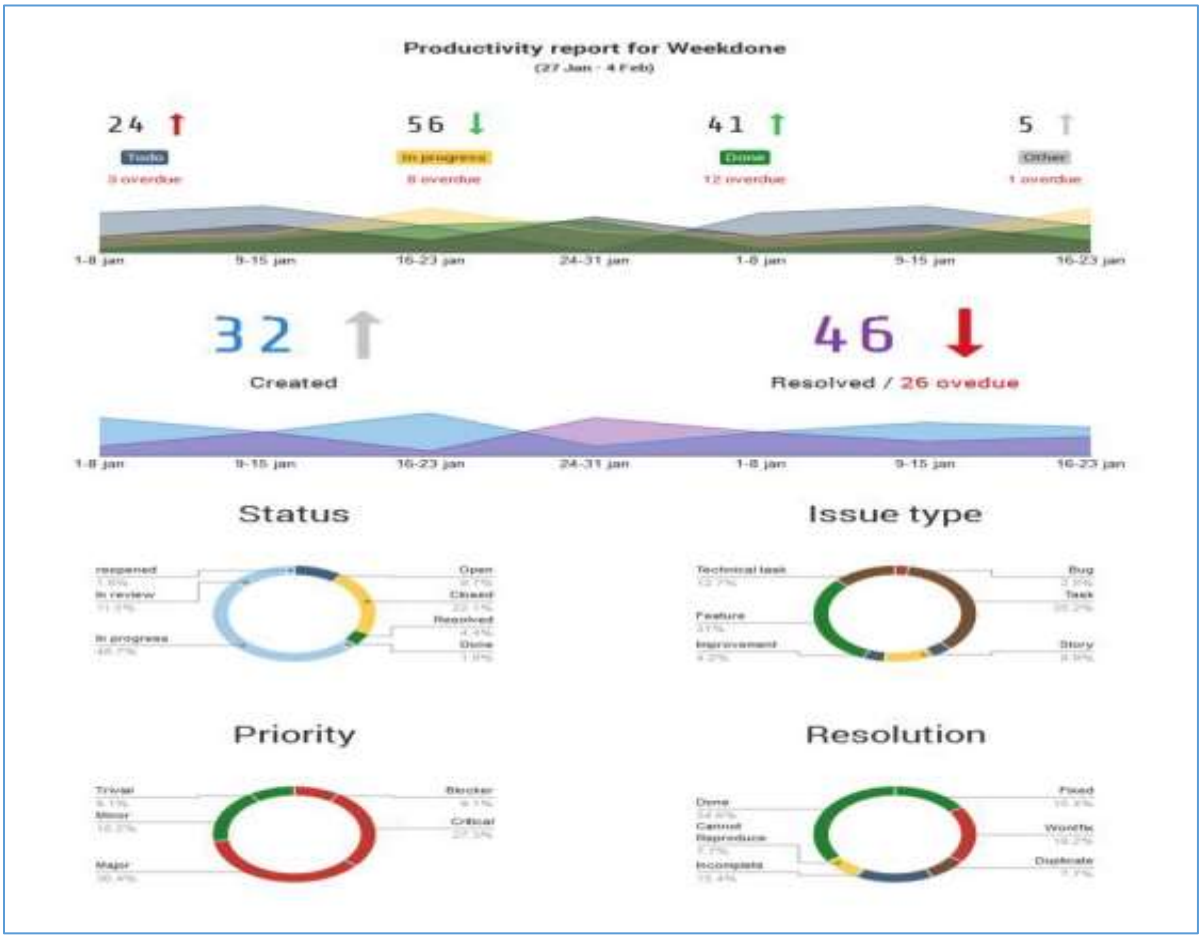
- Dispatching model –top down communication
- Collaborative model –interactive communication between sender and receiver

What are the ways of communicating in agile projects?

- Low-tech high-touch tools
- Stand up meetings
- Osmotic communications
- Tacit knowledge

What is an Information Radiator?

- Highly visible displays of information
- Large graphs or charts that summarize project data
- Out in the open and easily accessible
- Also known as visual controls



- Features delivered versus features remaining
- Who is working on what
- Current iteration features to be created
- Velocity and defect measurements
- Retrospective outcomes
- Threats and issues for the project
- Burn up and burndown chart
- Story maps

What are the Social Media linked with Agile Projects?

- Remote workers staying in touch
- Facebook
- Twitter
- Web collaboration tools
- Non- co-located teams
- Consider the sensitivity of the project information

How would you say collaboration is the key in agile projects?

- Customer collaboration over contract negotiation
- Business people and developers must work together daily throughout the project

What are the benefits of collaboration?

- Generates wiser decisions
- Promotes problem solving
- Promotes action
- Build social capital
- Ownership of collective problems

How will you engage the people in agile projects?

- Engagement creates better ideas and put some conversations
- Active problem solving instead of command and control
- Taking action rather than being passive
- Collective ownership of ideas
- Motivates and engages the project team
- Shifts the power downward

Compare Green Zone Vs Red Zone?

Green Zone	Red Zone
○ Takes responsibility ○ Responds non-defensively ○ Not easily threatened ○ Build mutual success ○ Seeks solutions ○ Uses persuasion ○ Firm, but not rigid ○ Thinks both short-term and long-term ○ Considers other points of views ○ Welcomes feedback ○ Considers conflict to be natural ○ Speak calmly and directly about difficult issues ○ Accept responsibility ○ Seeks excellence	○ Blames others ○ Responds defensively ○ Feels threatened or wrong ○ Triggers defensiveness ○ Holds grudges ○ Shame, blame, and accusations ○ Binary thinking ○ Short-term advantage ○ Feel victimized ○ Doesn't seek feedback ○ Must win at any cost ○ Is rigid and reactive ○ Creates a climate of antagonism ○ Disapproval and content ○ Sees others as the enemy ○ Does not listen effectively

How will you host the workshops?

- Meetings for participants to get work done
- Clear goals and a schedule
- Retrospectives
- Planning meetings
- Estimating sessions

What are tips to conduct a success workshop?

- Have a diverse group of people
- Facilitated for involvement
- Get people involved early

What are User Story Workshops?

- Preferred approach for candidate user stories
- Also known as story writing workshops
- Optimize the workflow by understanding user needs
- Engage stakeholders in the design process

What is brainstorming?

- Collaborative technique too rapidly generate lots of ideas
- Maximize number of suggestions
- No stupid ideas
- Will sort through the ideas later

What are the brainstorming methods?

- Quiet writing
- Round robin
- Free for all

What is Collaboration games?

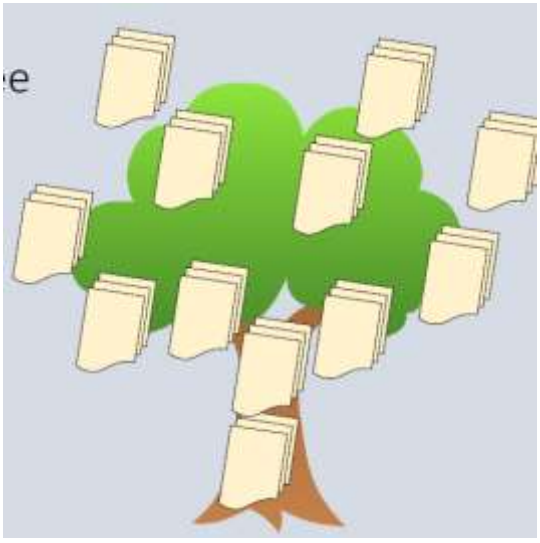
- Also known as innovation games
- Remember the future
- Prune the product tree
- Speed boat
- Buy a feature
- Bang for the buck

How will you remember the future?

- Collaboration game
- Stakeholders look back at the project
- 20 minutes to write a future report about how the project went
- Includes what was created; written on sticky notes
- Notes are moved into associated clusters and duplicates removed
- This game define success

Sketch | Prune the Product Tree build with features?

- Drawing of a big tree
- The trunk is what we already know or have built
- The branches are new functionality and what needs to be designed
- Participants add features on sticky notes to the tree
- Closer to the trunk represents higher priority



Explain Speed boat games? Draw a Sail boat?

- Imagine it's a boat
- What winds are pushing the sailboat
- What anchors are holding the sailboat back
- What direction is the sailboat going
- What rocks are in the way

What are the interpersonal skills for an agile project?

- Emotional intelligence
- Active listening
- Facilitation techniques
- Negotiation
- Conflict resolution
- Participatory decision making

What is an emotional intelligence? What are its quadrants?

The ability to identify and influence our emotions and the emotions of others

Self-management

- **Self-control**
- **Conscientiousness**
- **Adaptability**
- **Drive and motivation**

Self-awareness

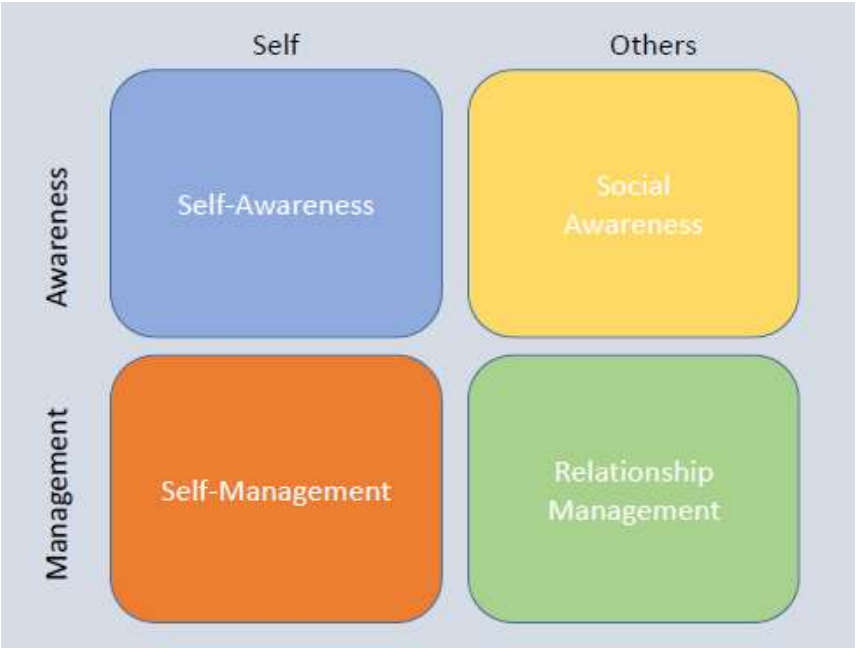
- **Self confidence**
- **Emotional self-awareness**
- **Accurate self-assessment**

Social skills

- **Influence**
- **Inspirational leadership**
- **Developing others**
- **Teamwork and collaboration**

Social awareness

- **Empathy**
- **Organizational awareness**
- **Understanding the environment**



What is Active Listening?

- Hearing what someone is really trying to say
- Level 1 –Internal listening
- Level 2 –Focus listening
- Level 3 –Global listening

Level 1 – Internal Listening

- Words are heard, but we're not very attentive
- We interpret the meaning –how is this going to affect me

Level 2 –Focus listening

- The speaker's perspective
- We empathize with the speaker
- We look for emotional indicators such as voice and tone
- Facial expressions and words

Level 3 –Global listening

- We build on level 2
- A higher level of awareness
- Subtle clues about meeting such as the speaker's posture and energy
- Helps us to develop a fuller context of the message

What is Facilitation?

- Running effective meetings and workshops
- Goals –ensuring that meetings are not a waste of time by promoting participation
- Rules –establishing ground rules and holding people accountable to these rules
- Timing –the duration of the meeting is established ahead of time
- Assisting –making the meeting effective and assuring that everyone may contribute

What is Negotiation?

- Negotiations happen throughout the project
- Consider the priorities of user stories
- Avoid a zero-sum game where only one person wins
- Healthy negotiations allow for give and take

What is Conflict Resolution?

- Differences of opinions and competing interest
- Some conflict is healthy

Level	Name	Characteristic	Language
One	Problem to solve	Information sharing and collaboration	Open in fact based
Two	Disagreement	Personal protection Trump's resolving the conflict	Garden and open to interpretation
Three	Contest	Winning Trump's resolving the conflict	Includes personal attacks
Four	Crusade	Protecting one's own group becomes the focus	Ideological
Five	World War	Destroy the other	Little or non-existent

What is Participatory Decision Making?

- Engaging stakeholders for decision making
- Communication and decision-making are critical to keep everyone informed then engaged
- Involves stakeholders when making decisions
- Stakeholder involvement increases as they commit to the project

What is Convergent & Shared Collaboration?

- Convergent –participating decision making models in for conversions for collective agreements
- Shared collaboration they share the decision-making process fairly

What is simple voting?

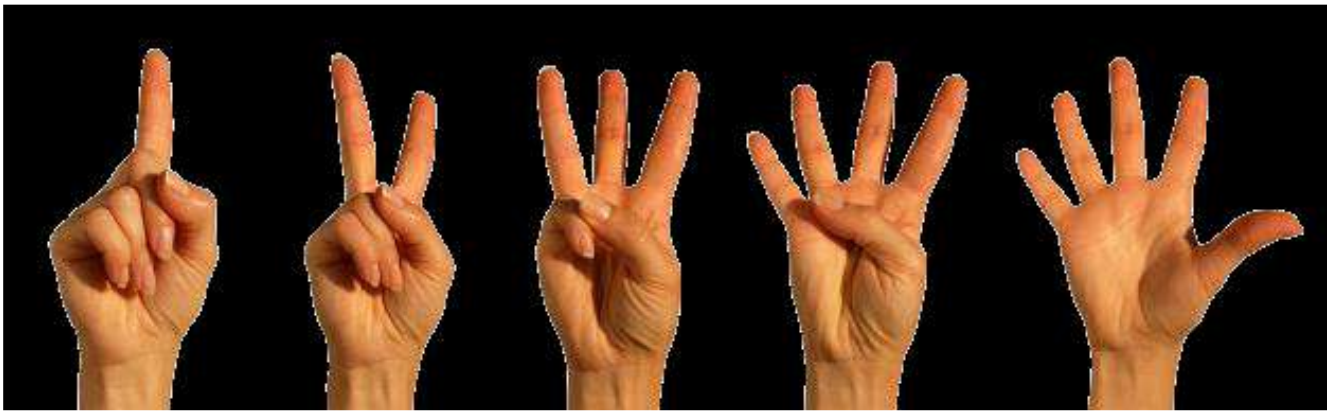
- Participatory decision approach
- The team votes for or against an idea by a show of hands

What is thumbs up | down | sideways?

- Thumbs up and individual is for the decision
- Thumbs down and individual is against the decision
- Thumb sideways the individual is neutral or undecided

What is Fist of Five Voting?

- The number of fingers shown indicates degree of support



What is Highsmith Decision Spectrum?

- Participants place a checkmark on a spectrum
- In favor
- Okay but with reservations
- Mixed feelings
- Not in favor but will commit
- Veto

Stakeholder Management Practice Questions

1. Stakeholders are one of the important elements of a business organization, which one of these corroborate this notion?

A. They impact company's projects by rendering assistance to show a detailed project progress with presentations to the customers.

B. They are the main consultants that render backups for company's development.

C. They proffer positive impactions as they partake in company's development by investing in the company.

D. All of the above.

Ans: C. Stakeholders render supports to company's project through investment. Choices A, B, and D are incorrect for this question.

2. To consolidate an organization's development through the engagement of stakeholders, which of these is the necessary skill needed?

A. Build relationships with key stakeholders with a working agreement to allow effective collaboration.

B. Ensure all stakeholders are engaged appropriately by updating the stakeholder registry upon changes to the project.

C. Foster group decision making and conflict resolution in order to maintain a good relationship among stakeholders.

D. All of the above.

Ans: D. All the aforementioned skills are necessary to enhance effective engagement of stakeholders. Choice A, B, and C only is not correct for this question.

3. To stimulate stakeholders' interest in a project, which of these proves clearly to be the most necessary?

A. The definition of done must be agreed upon collectively with key stakeholders before carrying out the project works.

B. Presenting them the projects' charter to aid their understanding of the projects objectives.

C. Understanding their basic needs by engaging stakeholders through early and continuous knowledge sharing and active listening throughout the project lifespan.

D. All of the above.

Ans: C. Understanding their basic needs by engaging them through continuous knowledge sharing. Choices A, B, and D are incorrect for this question.

4. Which one of these statements is considered false as far as an agile project is concerned?

A. Feature means a value delivering set of stories to consumers.

B. Ground Rules are unwritten rules that apply to all team members.

C. Fishbone Diagram is otherwise known as root cause diagram.

D. A project team is considered a set of stakeholders.

Ans: D. A project team is considered a set of stakeholders. Choices A, B, and C are incorrect for this question.

5. The charter is one of the agile project's most important business documents, as a member of Agile who is acquainted with documentation, which one of these qualities is present on a detailed charter?

A. Background, objectives, vision and mission, stakeholders of a project.

B. Communication plan.

C. Success criteria.

D. All of the above.

Ans: D. All of the aforementioned are essential qualities of a detailed project charter. Choice A, B or C only is incorrect for this question.

6. Agile values listening; it is important in every area of business to enhance a perfect understanding of a speaker's expression, therefore, which of these levels of listening implies getting the exact message, the speaker is trying to convey?

A. Internal Listening.

B. Focused Listening.

C. Global Listening.

D. Active listening.

Ans: B. Focused Listening. Choices A, C, and D are incorrect for this question.

7. The fundamentals pertaining to stakeholder engagement involves all of the following except_____

A. Stakeholder's management.

B. Knowledge sharing.

C. Participatory decision models.

D. Contest among shareholders and company's authority.

Ans: D. contest entails taking sides in an organization and this shouldn't be encouraged. Choices A, B, and C are incorrect for this question.

8. The simple techniques required to encourage and facilitate stakeholder involvement in decision-making process include all of these except_____

A. Simple voting.

B. Thumbs up.

C. Jim Highsmith's Decision.

D. Two to two voting system.

Ans: D. Two to two voting system. Choices A, B, and C are incorrect for this question.

9. The term which implies a total compliance of a project in terms of analysis, design, coding, user acceptance, testing and delivery, and documentation according to the pre-agreed conditions is referred to as_____

A. Validation.

B. Done.

C. Verification.

D. Regulation.

Ans: B. Done is the correct choice. Choices A, C, and D are incorrect for this question.

10. In order to resolve any conflict so as to maintain a perfect understanding and mutual relationship between an organization, its stakeholders and customers, the efficient dispute resolution techniques required involves which of the following?

A. Confronting.

B. Collaboration.

C. Sorting out differences.

D. All of the above.

Ans: D. All of the aforementioned techniques are advisable and reliable in conflict resolution. Choice A, B or C only is incorrect for this question.

Lesson 5 TEAM PERFORMANCE

Topics to Discuss

- Team Performance Overview
- Building an Agile Team
- Collaborative Team Spaces
- Tracking Team Performance

What are the team performance tasks?

- Develop team rules and processes to foster buy in
- Help grow team interpersonal and technical skills
- Use generalizing specialist
- Empower and encourage emergent leadership
- Learn team motivators and demotivators
- Encourage communication via collocation in collaboration tools
- Shield team from distractions
- Align team by sharing project vision
- Anchor team to measure velocity for capacity and forecast

How will you support self-organizing team?

- Self-organizing
- Self-empowered
- The project team are stakeholders
- Team leaders
- Scrum masters

What are importance of people in Agile?

- People are more important and processes
- Focus on the people
- Servant leadership

Who are involved in the Development team?

- Coders
- Writers
- Analyst
- Testers
- People can perform multiple jobs in switch from role-to-role

What are the responsibilities of Development Team?

- Build the product increments
- Update information radiators
- Self-organize and self-direct
- Share progress through daily standup meetings
- Right acceptance test
- Test and revise the product increments
- Demonstrate completed increments
- Hold iteration retrospective
- Estimate the stories and task

Who are the business representatives?

- Product owner
- Customer
- Proxy customer
- Value management team

What are the responsibilities of business representatives?

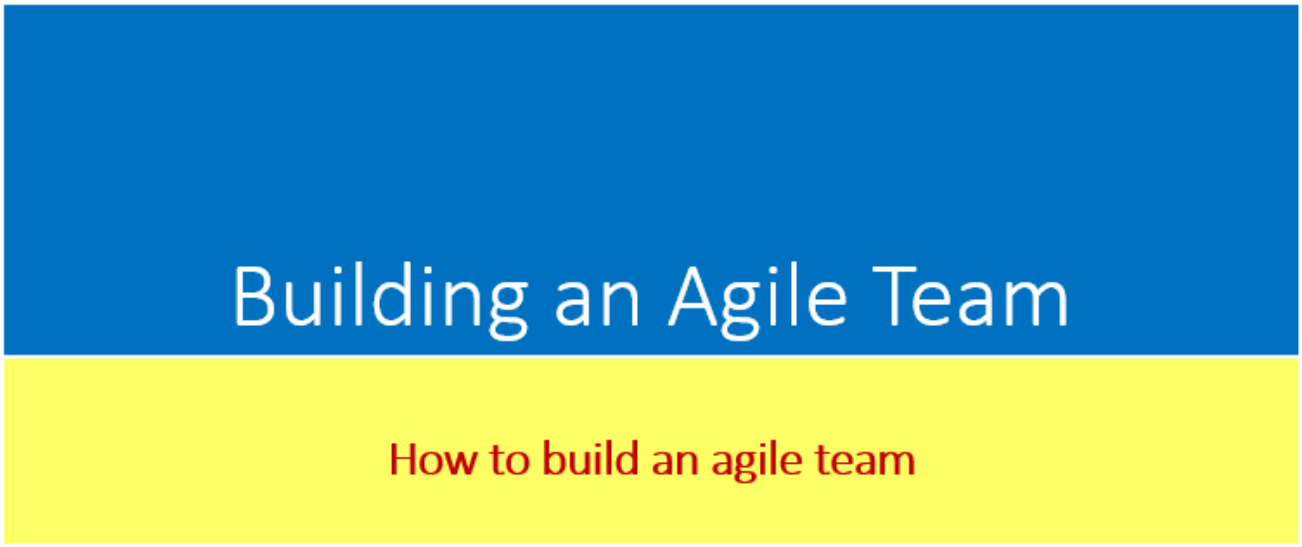
- Prioritize product features
- Manages the product backlog
- Ensures a shared understanding
- Provides the acceptance criteria
- Makes change request
- May change the product features and priorities
- Facilitate engagement of external project stakeholders
- Provides due date for the project
- Attends planning meetings reviews and retrospectives

What are the responsibilities of Scrum Master?

- Coach or team leader
- Servant leader
- Helps the delivery team self-govern and self-organize
- Facilitator and communicator
- Coach and mentor to the delivery team
- Guides agile processes
- Helps the product owner manage the product backlog
- Helps the product owner communicate
- Facilitates meetings
- Follows up on issues

What are the responsibilities of Project Sponsor?

- The main advocate for the project
- Provides direction to the product owner
- Determines value on time and on budget
- May attend iteration review meetings
- Authorizes the project



What are the team characteristics?

- 12 or fewer members
- Team members have complementary skills
- Team members are generalizing specialist
- Team members are committed to a common purpose
- Team members hold themselves mutually accountable
- Team members have shared ownership for the project outcome

How will you define generalizing specialist?

- Team members can serve in multiple roles
- Team members can easily switch between rules
- Helps to resolve bottlenecks

What are the characteristics of high performance teams?

- Create a shared vision for the project team
- Set realistic goals
- Limit team size to 12 or fewer people
- Build a sense of team identity
- Provide strong leadership

What are the 8 characteristics of high performance teams?

- Self-organizing
- Empowered
- Believe that as a team they can solve any problem
- Committed to team success
- Owns its decisions and commitments
- Motivated by trust
- Consensus driven
- Participate in constructive disagreement

What is Self-Organize teams?

- Not command and control
- Can use their own knowledge to organize work
- Structure that work based on iteration goals
- Responsibility delegated to the team

What is Self-Directing teams?

- Empowered to work collectively
- Make local decisions
- Estimate and decide the project work
- Make mistakes and learn from mistakes

How will you define the emergent leadership?

- Different people lead different initiatives
- High-performing teams allow multiple leaders
- No power struggle when leaders change roles
- Leaders are self-selected not assigned

How the team nature of Experimenting & Failing Safely?

- The team should experiment and try new approaches
- It's okay to fail
- Learn from failure and move forward
- An engagement culture rewards people for problem solving collaboration and sharing ideas

How will you encourage the constructive disagreement?

- Debate and conflict is natural and healthy
- Constructive conflict leads to better decisions and buy-in
- Divergence means the team will argue and debate
- Convergence means the team will agree on the best solution

What are the five dysfunctions of a team?

- Absence of trust
- Fear of conflict
- Lack of commitment
- Avoidance of accountability
- Inattention to results

Explain Shu-Ha-Ri skill mastery?

- Shu: obeying the rules to keep protect or maintain
- Ha: consciously moving away from the rules; Ha means to detach or break free
- Ri: unconsciously finding an individual path; Ri means to go beyond or transcend

Explanation

- Shu –start by following the rules
- Ha –once the team has mastered the guidelines they can move away from them and work intuitively
- Ri–the team reaches full mastery and can transcend the rules

Dreyfus Model of Adult Skill Acquisition?

- ***Novice***

  Follow the rules they've been given and make analytical decisions
- ***Advanced beginner***

  Still following the rules but based on experience better understand the context of the rules
- ***Competent***

  Determining which rules are best for each situation
- ***Proficient***

  Actively choosing the best strategy rather than simply relying on the rules
- ***Expert***

  Decision-making becomes intuitive

Tuckman Model of Team Formation & Development?

Tuckman Model Of Team Formation And Development

Forming–the team comes together and learns about each other

Also known as a working group

Storming–conflict and struggle for the approach and leadership

Also known as a pseudo team

Norming–the team works with each other and conflict has settled

Also known as a potential team

Performing–the team hits their stride

Also known as a real team and becoming a high-performing team

What is Adaptive Leadership?

Directing –happens during team forming

Team members may have low competence but high commitment

Leaders hi directive and low supportive behavior

Coaching –happens during storming

Team members have some competence and low commitment

Leaders high directive and high supportive behavior

Supporting –happens during norming

Team members have moderate to high competent and variable commitment

Leaders offer low directive and high supportive behavior

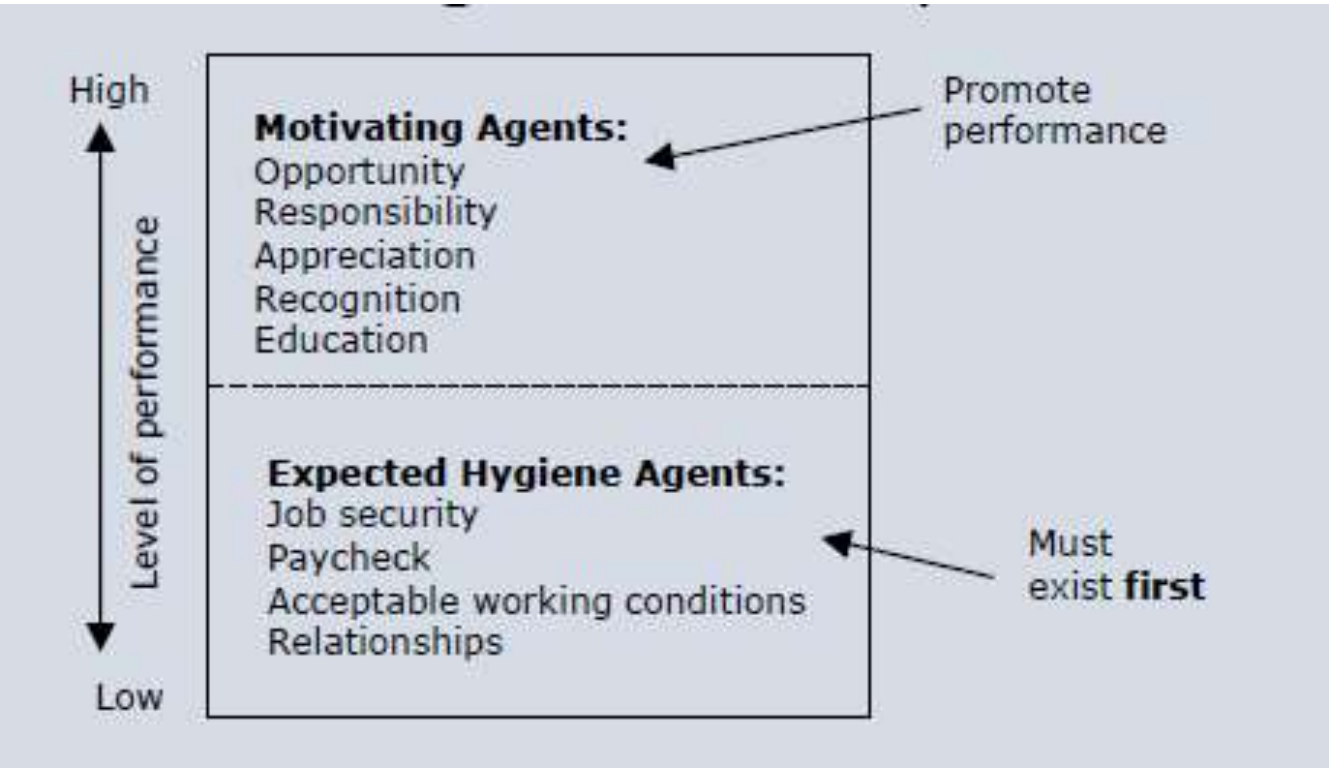
Delegating –happens during team performing

Team members have high competence and high commitment

Leaders offer low directive and low supportive behavior

Herzberg's theory of Motivation?

Continuum of net contribution



What is training, coaching & mentoring?

- Training is teaching a skill or knowledge through practice and instruction.
- Coaching is a facilitated process to help individuals develop and improve performance
- Mentoring is a professional relationship more free flowing. The mentor offers advice

Guidelines for one-on-one coaching?

- Meet them a half a step ahead
- Guarantee safety
- Partner with managers
- Create positive regard

Why Collocated Teams are preferred?

- All the team works in one location
- Ideally with in 33 feet or ten meters of each other
- No physical barriers like walls are doorways
- Distributive teams is collaborative software

How will you create a team space?

- Location for team members in the same space
- Also known as the war room
- Visible information radiators for project metrics
- Lots of white boards and task boards

What is Caves & Commons?

- Caves are private spaces for phone calls or one-on-one conversations
- Commons is the primary work area

What is Tacit Knowledge?

- The unwritten information collectively known by the group
- How to restart a server
- How to turn on the lights
- Larger groups have more difficulty with tacit knowledge

What is Osmotic Communication?

- Learning by overhearing each other's conversation
- Benefit of a collocated team

How will you manager Virtual Teams?

- Consider different time zones
- Consider different cultures
- Different communication styles
- Different native languages

How will you manage Distributed Teams?

- Distributed teams are virtual teams
- Short iterations help collaboration in coordination
- Distributed teams is not the same as outsourcing
- Distributed teams faced more of a challenge it was storming and norming
- The project manager may need to introduce controversial or difficulties of the work early in the project
- A face-to-face kickoff is often needed

What are the Digital tools for Distributed Teams?

- Video conferencing it like that
- Interactive whiteboard
- Instant messaging
- Presence based application
- Electronic task for the storyboards
- Web-based meeting facilitators
- Virtual card wall
- Wiki site

How will you utilize the burn-down chart?

- Track the work that remains to be done on a project
- Measures the team progress in completing the project work
- Track the work that has been completed
- As work is done the line moves upward
- Provides additional insight into the project status

What do we understand from the team velocity?

- Velocity is the measure of a team's capacity for work per iteration
- Measured in the same unit that the team estimates the work
- Velocity very early and then stabilizes
- Velocity tends to plateau

How would you calculate the completion time?

- The team's velocity has been 20 story points per iteration
- There are 200 story points left
- Each iteration is two weeks
- 200 divided by 20 is 10
- 10 times 2 is 20
- There are 20 weeks left in the project

Team Performance Practice Questions

1. A reputable company comprises a number of interpersonal and technical experts with common objectives and goals who work diligently to deliver the intended outcomes and values of the company's project. This group is referred to as the_____

A. Technicians.

B. Professionals.

C. Team.

D. Experts.

Ans: C. According to Agile terminologies, the team is the correct choice. Choices A, B, and D are incorrect for this question.

2. In order to build a substantially capable team to realize an effective and efficient work force, the necessary requirements include_____

A. Team Empowerment.

B. Team Collaboration.

C. Commitment.

D. All of the above.

Ans: D. All of the aforementioned requirements are necessary. Choices A, B, or C are incorrect for this question.

3. When a project work is ongoing, the Agile manifesto values team members and their interactions than which of the following?

A. Working software.

B. Customer collaboration.

C. Responding to change.

D. Processes and toolset.

Ans: D. Processes and toolset. Choices A, B, and C are incorrect for this question.

4. During team development, a series of steps according to Tuckman's stages of group development are usually involved, these include the following except_____

A. Numbering.

B. Forming.

C. Storming.

D. Norming.

Ans: A. Numbering. Choices B, C, and D are incorrect for this question.

5. At what level according to Tuckman's stages of group development, is the team said to be most efficient and with a high responsiveness?

A. Storming.

B. Adjourning.

C. Performing.

D. Norming.

Ans: C. Performing. Choices A, B, and C are incorrect for this question.

6. The exceptional and admirable conduct a team could exhibit due to the empowerment and support they receive includes which of these_____

A. Self-directing.

B. Self-organizing.

C. Mutual accountability.

D. All of the above.

Ans: D. All of the aforementioned are the resultant conducts. A, B, and C are incorrect for this question.

7. Mutual accountability is one of the positive conducts a team exhibit due to empowerment, it implies which of these_____

A. The team has the best knowledge about the project and is in the best position to control project works.

B. The team can make its own decisions, not to be directed from the management.

C. Promotion of empowerment so that the team operate as a whole.

D. None of the above.

Ans: C. Promotion of empowerment so that the team operate as a whole. Choices A, B, and D are incorrect for this question.

8. Which one of these is present in the Tabaka's model that states the qualities of a high-performing team?

A. Committed to their work.

B. Trust each other.

C. Participatory decision making.

D. All of the above.

Ans: D. All of the aforementioned are present. Choices A, B, or Care incorrect for this question.

9. Being one of the members of a high performing team, there are a number of ways in which performance can be maximized for greater productivity. Which of these is the best example to maximize productivity?

A. Open and honest communication, even in case of disputes or conflicts.

B. Lack of commitment.

C. Accountability.

D. None of the above.

Ans: A. Open and honest communication. Choices B, C, and D aren't the best option for this question.

10. Productivity is one of the primal qualities of an effective and efficient team, it can be measured by which of these factors?

A. Velocity.

B. Collocation.

C. Displacement.

D. None of the above.

Ans: A. Velocity is defined as the number of story points that are completed by a team in iteration; it is the ideal factor for measuring productivity. Choices B, C, and D are incorrect for this question.

Lesson 6 ADAPTIVE PLANNING

Topics to Discuss

- Adaptive Planning Overview
- Agile Planning Concepts
- Tools for Agile Project Sizing and Estimating
- Planning for releases and iterations

What are the key tasks for adaptive planning?

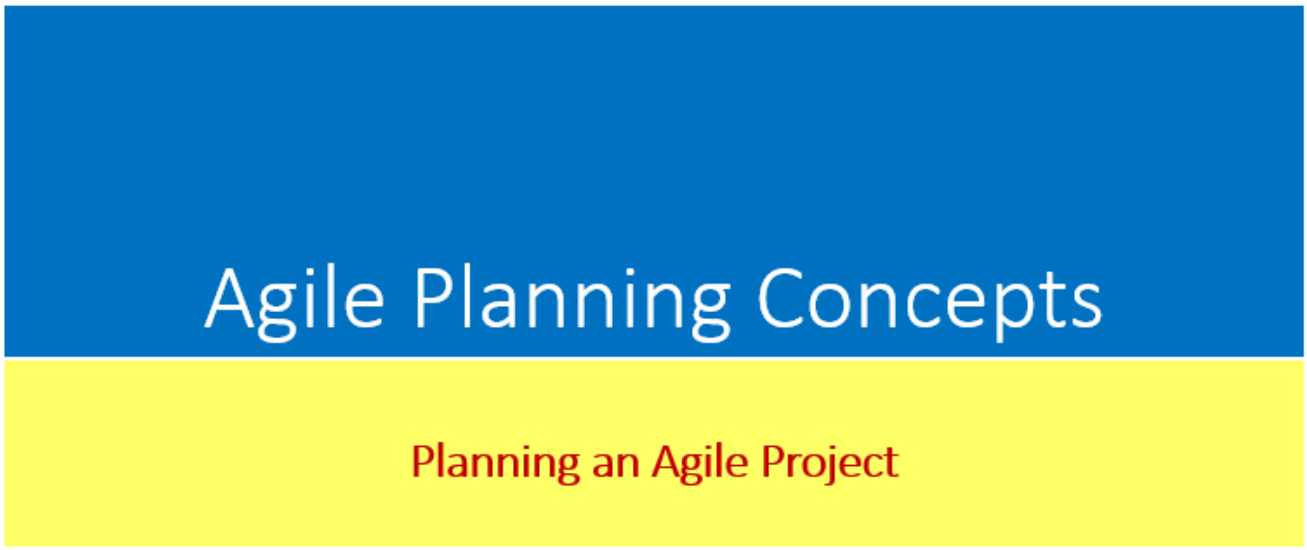
- Progressive elaboration and rolling wave planning
- Transparent planning and key stakeholders
- Managing expectations by refining plans
- Adjusting planning cadence based on project factors and results
- Inspect and adapt the plans to changing events
- Size items first independently of team velocity
- Adjust capacity for maintenance and operations demands to update estimates
- Start planning with high-level scope schedule and cost range estimates
- Refine ranges as the project progresses
- Use actuals to refine the estimate to complete

What is Adaptive Planning?

- Planning is an ongoing activity
- Agile planning is different than predictive planning
- Plan for early delivery business value, risk reduction, visibility

What are the examples of interactive planning?

- Daily standup
- Backlog prioritization
- Sprint retrospective
- Iteration planning



Where is the beginning of Adaptive Planning?

- Agile projects are value-driven
- Minimize non-value-added work
- Plan to re-plan
- Early plans are necessary, but they're likely flawed
- Uncertainty requires re-planning

Explain Agile Vs Non-Agile Planning?

- Trial and demonstration uncover true requirements
- Less up front and more iterative planning
- Mid-course adjustments are normal

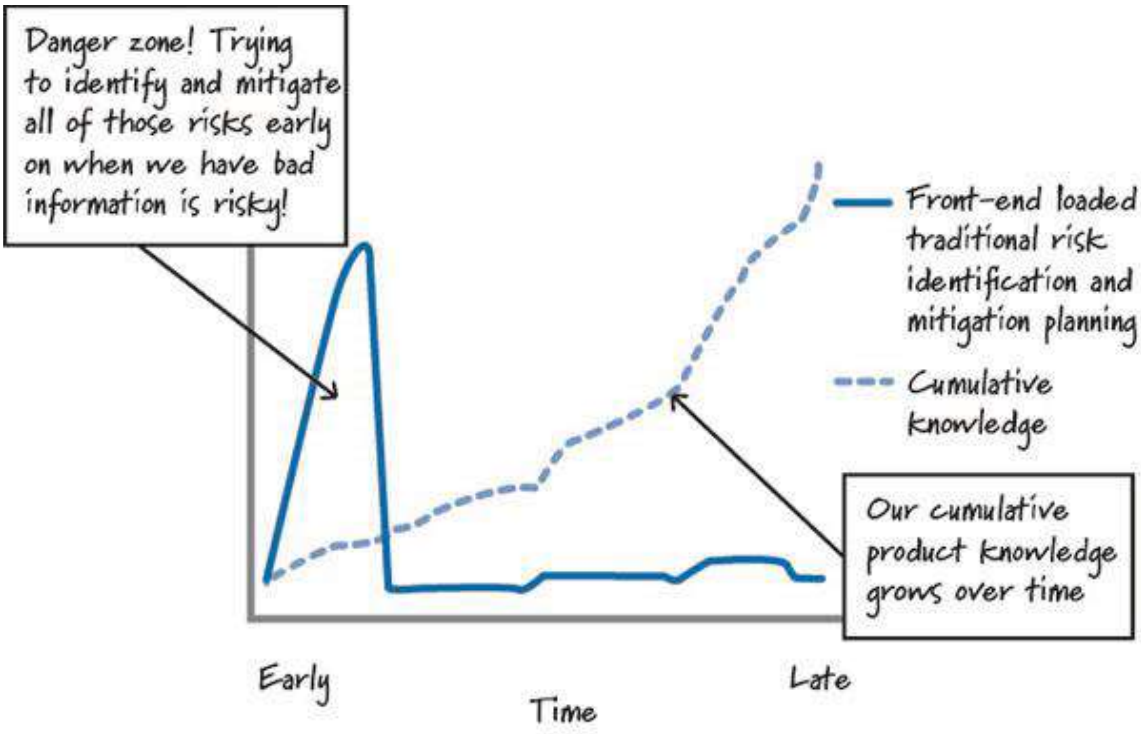
How will you do the demo?

- Prototypes help initial planning
- Helps to avoid the gulf of evaluation
- Communicate agile planning practices

What do you say about Iteration Planning?

- The planning effort is distributed throughout the project life cycle
- Agile projects are risky
- Consider planning efforts over the project life cycle
- Agile projects typically do more planning

Draw a Risk Graph in Planning?



What are the principles of Agile Planning?

- Plan at multiple levels
- Engage the team and customer in planning
- Demonstrate progress in velocity
- Taylor processes for the project
- Priorities will cause the plan to be updated
- Account for risk distraction and team availability
- Utilize estimate ranges
- Base projections on completion rate
- Factor in diversion from outside work

What is an Agile Discovery?

- Emergent plans and designs versus predictive plans and designs
- Pre-planning activities together consensus
- Backlog refinement –grooming
- Estimating uncertain work forces certain work
- New product development vs. Repeatable project

What is Progressive Elaboration?

- As more information becomes available more planning can happen
- Continuing steadily in small increments
- Progressive elaboration examples
    - Plans
    - Estimates
    - Risk assessments
    - Requirements definition
    - Software design
    - Test scenarios

Progressive Elaboration Vs Rolling Wave Planning

- Rolling wave planning is planning a multiple point
- Plan and execute iteration
- Progressive elaboration is incorporating new information into the plans
- Progressive elaboration is the implementation of rolling wave planning

What is Value Based Analysis?

- Assessing and prioritizing the business value of work items
- Business benefit –cost
    - Business benefit equals $8,000
    - Cost equals $5,500
    - Value is $2,500
- Will the item generator business value every week or month
- A high business value item may be dependent on a low business value item

What is Value Based decomposition?

- Requirements elicitation
- Grouping of like features
- Breaking down of features
- Ranking of requirements
- Prioritize requirements into development

How will you create the Product Box?

- Imagine a product box or software
- Top three features
- Major functional elements
- Prioritization of features
- This is a visualization exercise

What is Coarse Grained requirements?

- Keeps the overall design balanced
- Delays decision on implementation details until the last responsible moment

What is time boxing in agile projects?

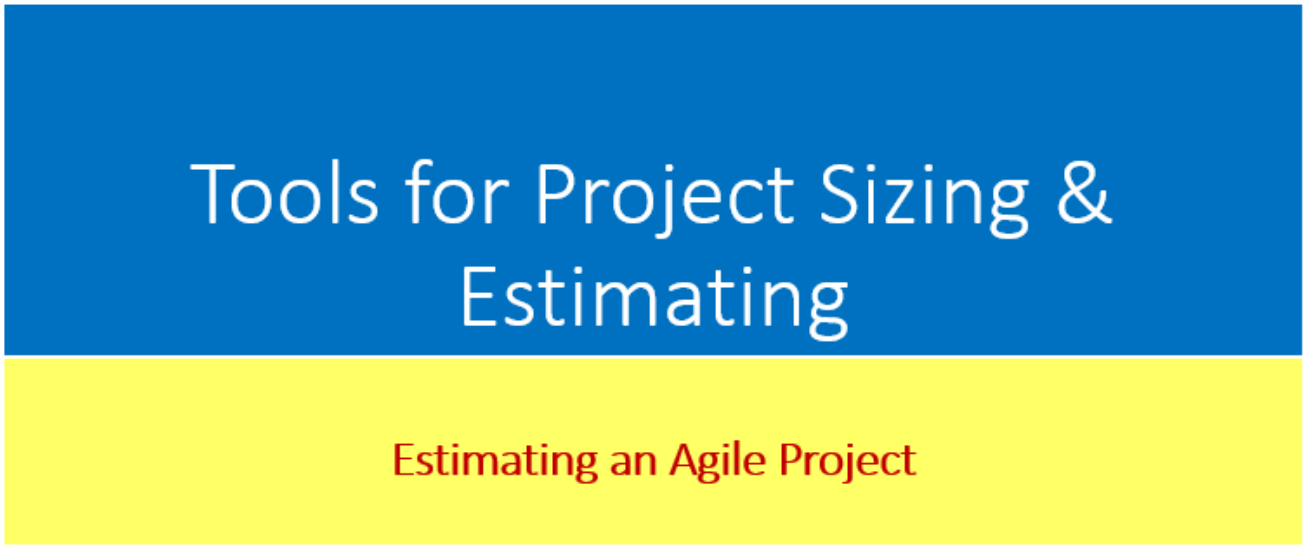
- Fix duration period of time
- Define set of activities
- Daily scrum or stand up
    - Daily standup meetings -15 minutes
    - Retrospective –2 hours
    - Iterations and sprint's –1 to 4 weeks

Example for time boxing in sprints?

- 12 work items
- Team completes eight
- Remaining four items returned to the backlog

What is Parkinson's Law?

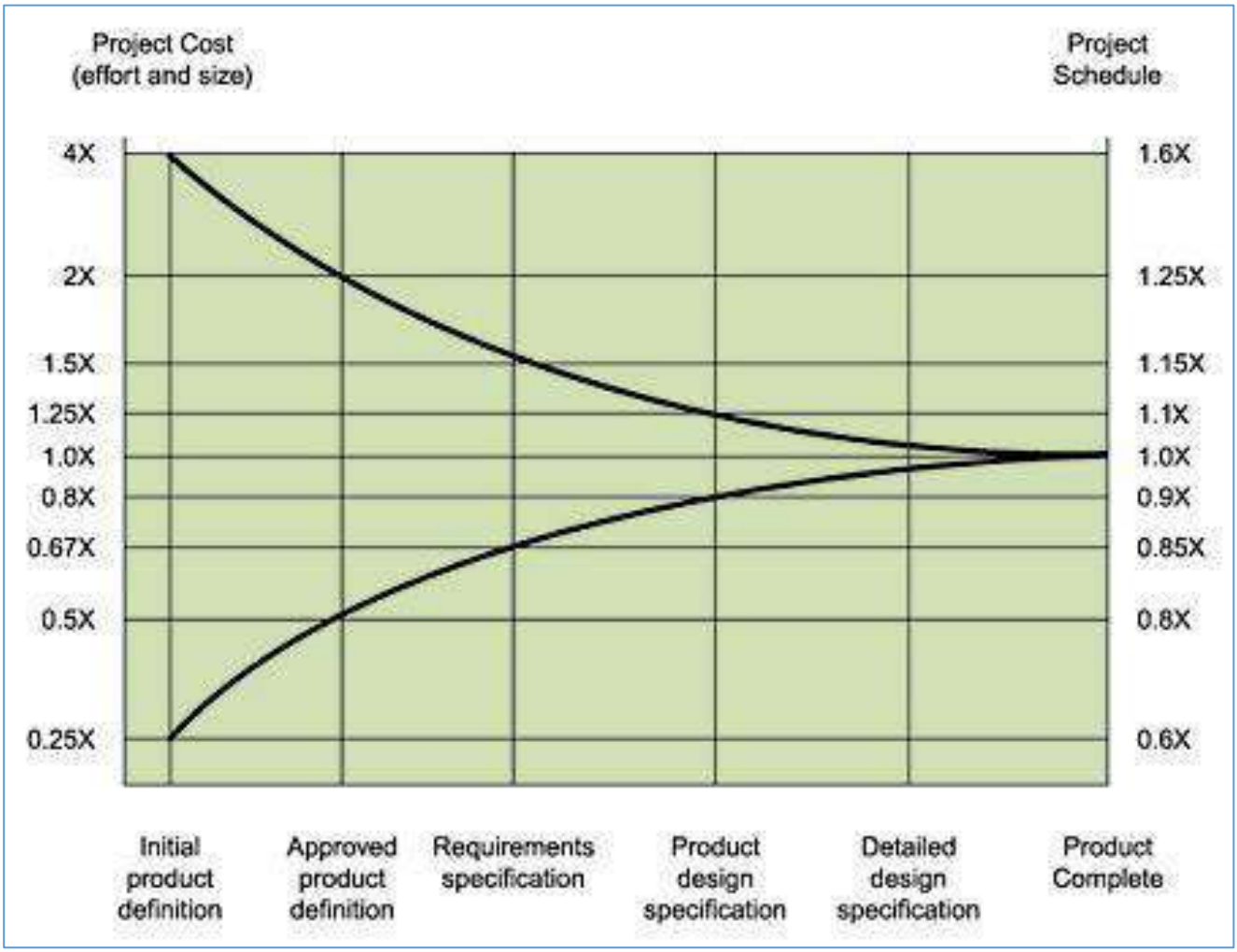
- Work expands to fill the time allotted to it
- Student syndrome –students wait to the last possible minute to start working



How will you provide the estimate ranges?

- Not as precise as predictive planning
- More uncertainty and agile projects
- Include a range of variance
    - Between $500,000 and $550,000
    - Plus, or minus 10%

Draw estimate convergence graph?



How will you create an Agile estimate?

- Why is an estimate needed –to create a schedule and budget
- When does estimating happen –the last responsible moment and throughout the project
- Who does the estimating –team members estimate their own work

- How are estimates created –stages of sizing and planning; roll out an estimate cost may also be included
- How are estimates stated –always include a degree of uncertainty

What are the factors for an Ideal Time?

- Estimate as if there would be no interruptions
- Ideal time assumes all time in the estimate is for project work

What are the assumption for sizing & estimation?

- Details emerged as the project moves forward
- Plans are adjusted based on feedback
- Privatization happens throughout the project

How will you decompose the project requirements?

- Breakdown of the project work
- Epics –large user stories that span one or more iterations
- Feature –attributes of the product
- User story –decomposition of a feature
- Task –smallest element of the decomposition

What is a User Story?

- Small chunk of business functionality within a feature that involves roughly 1-3 days work
- Also defined as for 40 hours of work
- User stories are written on index cards or sticky notes
- User stories are the items in the product backlog

How will you create a User Story?

- Potential stories are called candidate stories
- Perspective of the user or customer
- Often written in the following format
    - As a *role* I want *functionality* so that *business benefit*
- Answers two questions:
    - Who was asking for this?
    - Why are we doing this?

Tell me the User Story Format?

- Given –the scenario for the story
- When –the action that takes place
- Then –the result of the action

What is 3C's of User Story?

- Card –just enough text to identify the story
- Conversation –details are communicated via a conversation between the customer and the development team
- Confirmation - customer confirmed the story has been implemented correctly

What is INVEST in User Stories?

Characteristics of effective user stories follow INVEST:

- **I**ndependent –stories can be prioritized in any order
- **N**egotiable –the team can discuss the user story with the product owner and make trade-offs based on the cost and function
- **V**aluable –the user story must have obvious value
- **E**stimate –the user story can be estimated for effort
- **S**mall –small user stories are easier to create and test that large user stories; 4 to 40 hours work
- **T**estable –the story results must be testable

How will you define the User Story Backlog?

- Also known as the product backlog
- User stories are listed and sorted
- User stories are prioritized in the backlog
- There is only one backlog

How will you groom the backlog?

- The backlog needs to be kept continuously updated
- Prioritizing or refining the backlog is called grooming

What are the changes to the backlog?

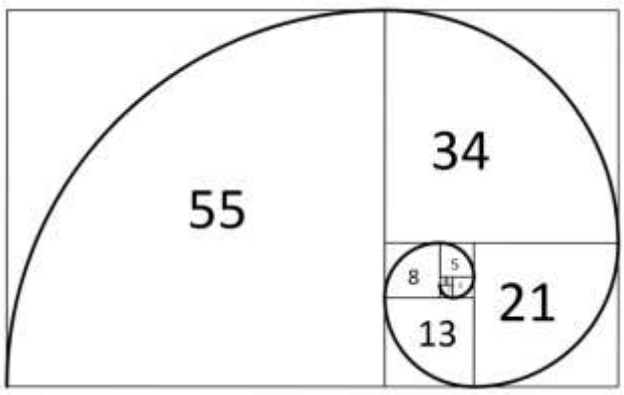
- New stories can be added
- Existing stories maybe reprioritized or removed
- Stories can be decomposed into smaller chunks
- Customer or value management team can add new story or reprioritize existing stories
- Decomposing stories –also called slicing –is typically done by the development team

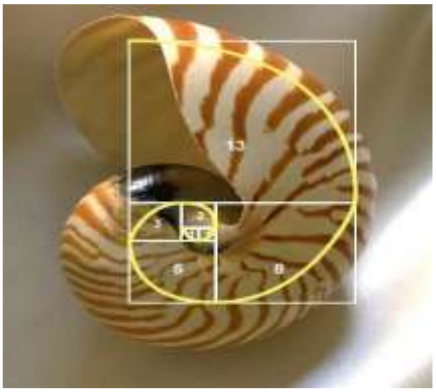
What is relative sizing in Story Points?

- It's difficult to make absolute estimate
- Story points are points assigned to stories size
- Relative sizing assigns points to stories on a relative scale
- The team then decides how many points can be done in our generation

What is Fibonacci Sequence?

- Starting with zero the two numbers in the sequence are added together to get the next number
- 0 plus 1 equals one
- One plus one equals two
- 2 plus 1 equals 3
- 1, 2,3,5,8,13,or 21 points
- Only these numbers are assigned to user stories





Tell me the guidelines for Story Points?

- The team owns the definition of their story points
- Story point estimate should be all inclusive
- Point sizes should be relative
- When disaggregating estimates the totals don't need to match
- Complexity work effort and risk are all included in the estimate

What is Affinity Estimating?

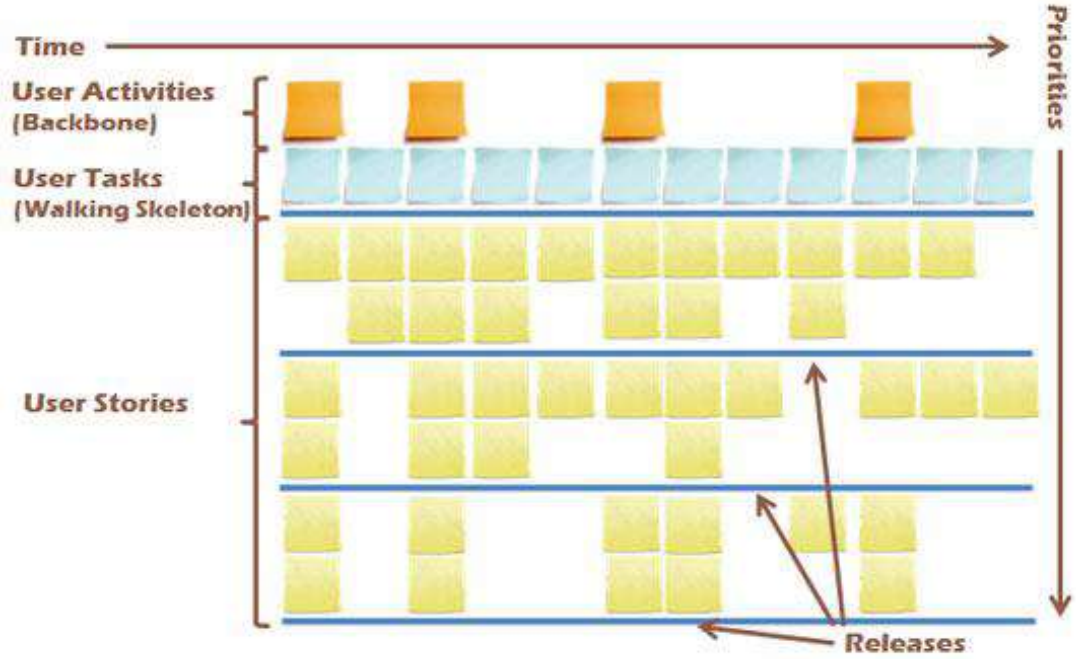
- Grouping items into similar categories or collections
- Group items based on story points
- Affinity estimating is like triangulation
- Allows the team to see the collection of user stories by points assigned

What is T-Shirt Sizing?

User stories are assigned to t-shirt sizes

What are Story Maps?

- High-level planning tool to map out project priorities
- Prioritized matrix of the features and user stories for the product being built
- Backbone –top level of the story map; essential functions for the system to work
- Walking skeleton –second row of the story map; smallest version of the system that will beat the customers both basic needs



How will you create the Product Map?

- Visual depiction of product releases
- Primary items that will be included in each release
- Helps to check risk and viability

What is Wideband and Delphi?

- Rounds of anonymous estimates
- Helps to build consensus
    - Bandwagon effect –gathering around common viewpoint
    - Highest-paid person's opinion –HIPPO
    - Groupthink –making decisions to maintain group harmony

What is Planning Poker?

- Cards with the Fibonacci sequence
- User stories review
- Participants show their cards at the same time the score the user

What is Releases & Iterations?

- Iterations are short, timeboxed periods of development
- Usually last two to four weeks
- Releases are the publishing of the software

How will you define the iteration types?

- Development timeboxes
- Sprints
- Time for development

What is Iteration Zero?

- Sets the stage for development
- Typically, no deliverables for the customer
- Prepares to do the work

What is Iteration H?

- Sets Hardening sprint
- Wrap up sprint
- Used to stabilize the code
- Document the product
- Compile final assembly
- Final testing

What is Architectural Spikes?

- Proof of concept
- Timeboxed effort to test the approach

What is Risk based Spikes?

- Short effort to investigate risk
- Reduce or eliminate through mitigation
- Good for new technology and early in the project

What is Fast Failure?

- Testing of different approaches for viability
- Good result before wasting time and money

What is Visioning or High-Level Planning?

- Prior to planning the first release
- Mapping out the overall effort of the project
- Product owner and sponsor
- Key team members
- Other major stakeholders

What are the outputs of High-Level Planning?

- Updated prioritize backlog
- Coarse grained relative estimates for each user story
- Goals of the release
- Release date

How will you host the Release Planning Meeting?

- All stakeholders represented
- Happens before each release
- The goal is to find which stories will be done in which iterations for the release
- Also defines future iterations for future releases
- Assess the prioritize backlog
- Reviews story sizing
- Sort the stories by release
- Define the initial outline or road map for the release
- Slice the stories as needed for the plan release

How will you slice stories?

- Compound stories –includes other independent stories within
- Stories –one large complicated story; usually can't fit in one iteration

What is Iteration Planning?

- Meeting for and facilitated by the delivery team
- Confirms goal for the current iteration
- Discuss the user stories in the backlog
- Select the user stories for the iteration
- Define the acceptance criteria and write the acceptance test for the stories
- Breakdown the use for stories in tasks
- Estimate the task

How will you be finding an estimate?

- Base of the team's velocity more accurate estimates can be created
- Burn up charts
- Burndown chart

How will you host the Daily standup?

- Also known as the daily scrum
- Call the stand up because the team's stand through the meeting
- 15-minutes duration
- Answer three questions
    - What have you worked on since our last meeting?
    - What will you finish today?
    - Are there any problems or impediments to your progress?

What are rules for daily standup?

- People with tasks must attend
- Only people who have tasks can talk
- Address the entire team not the scrum master
- No side conversations
- Add new task to sticky notes if they are started
- Discuss issues after the stand up
- Solve problems offline

Adaptive Planning Practice Questions

1. One of the various essential levels involved in agile project planning include which of these?

A. Strategic planning.

B. Logical planning.

C. Initiative planning.

D. None of the above.

Ans: A. Strategic planning. Choices B, C, and D are incorrect for this question.

2. Agile sizing and estimation involves which of these necessary steps prior to reaching completion?

A. Making use of progressive elaboration to estimate project efforts more accurately.

B. Updating the team capacity to factor in maintenance and operations demands.

C. Making initial rough estimate range on scope, schedule and cost at the very beginning of the project based on the high-level requirements to kick off the project.

D. All of the above.

Ans: D. All of the aforementioned steps are essential. Choice A, B or C only is incorrect for this question.

3. All of these are part of agile core project management phases employed in the development of a project except_____

A. Brainstorming.

B. Envisioning.

C. Speculating.

D. Exploring.

Ans: A. Brainstorming. Choices B, C, and D are incorrect for this question.

4. Which of the following agile planning stages implies the creation of a document, describing the high-level product requirements and the timeframes for deliverables, providing a visual overview of all the planned releases and major components?

A. Product vision.

B. Product road map.

C. Release plan.

D. Sprint/ Iteration plan.

Ans: B. Product road map. A, C, and D are incorrect for this question.

5. Which type of iteration involves the carrying out of tasks before the actual development work begins for technical and architectural setup and gathering initial requirements into the backlog?

A. Iteration O

B. Iteration H

C. Iteration P

D. None of the above.

Ans: A. Iteration O. Choices B, C, and D are incorrect for this question.

6. The Release planning aspect of agile project management implies which of the following?

A. Hardening iteration which is a time used to test and prepare the launch software.

B. involves scheduling development at high level about features and iterations.

C. A planning meeting to be attended by project team and stakeholders to discuss project related issues.

D. None of the above.

Ans: B. Scheduling development at high level about features and iterations.

7. Which of these is a meeting scheduled at the end of each sprint to be attended by team members only, in order to discuss improvements on product and process to enhance efficiency and effectiveness?

A. Sprint Retrospective.

B. Sprint Review.

C. Lessons.

D. All of the above.

Ans: A. Sprint Retrospective. Choices B, C, and D are incorrect for this question.

8. In a traditional project management, when is a lesson learned meeting carried out?

A. End of the meeting.

B. Some moment before the meeting.

C. During the meeting.

D. All of the above.

Ans: A. End of the meeting. Choices B, C, and D are incorrect for this question.

9. Which of the followings is among agile Planning Artifacts and Meetings?

A. Product vision.

B. Product road map.

C. Personas.

D. All of the above.

Ans: D. All of the aforementioned are parts of agile planning artifacts. Choice A, B, and C are incorrect for this question.

10. A tool used in requirement collection and testing in which realistic depiction of likely users for the product are created, these users can be real or fictitious is_____

A. Extreme Persona.

B. Persona.

C. Wireframes.

D. Release Plan.

Ans: B. Persona. Choices A, C, and D are incorrect for this question.

Lesson 7 PROBLEM DETECTING & RESOLUTION

Topics to Discuss

- Problem Detection & Resolution Overview
- What is the Problem?
- Detecting Problem in Agile Projects
- Managing Threats & Issues

What are the Problem Detection & Resolution Tasks?

- Create a safe an open environment to surface problems
- Engage team in resolving threats and issues
- Resolve issues or reset expectations
- Maintain a visible list of threats and issues
- Maintain a threat list and add threat remediation efforts to the backlog

What are the 4 themes in Resolution Tasks?

- Understanding problems
- Detecting problems
- Managing threats and issues
- Solving problems

What is Risk Management?

- Risk are uncertain events or conditions
- An agile projects risk is always negative
- Probability and impact
- Risk identification and tracking

What is Issue & Risk?

- Risk are uncertain events they've not yet happened
- Issues are risk events that have occurred

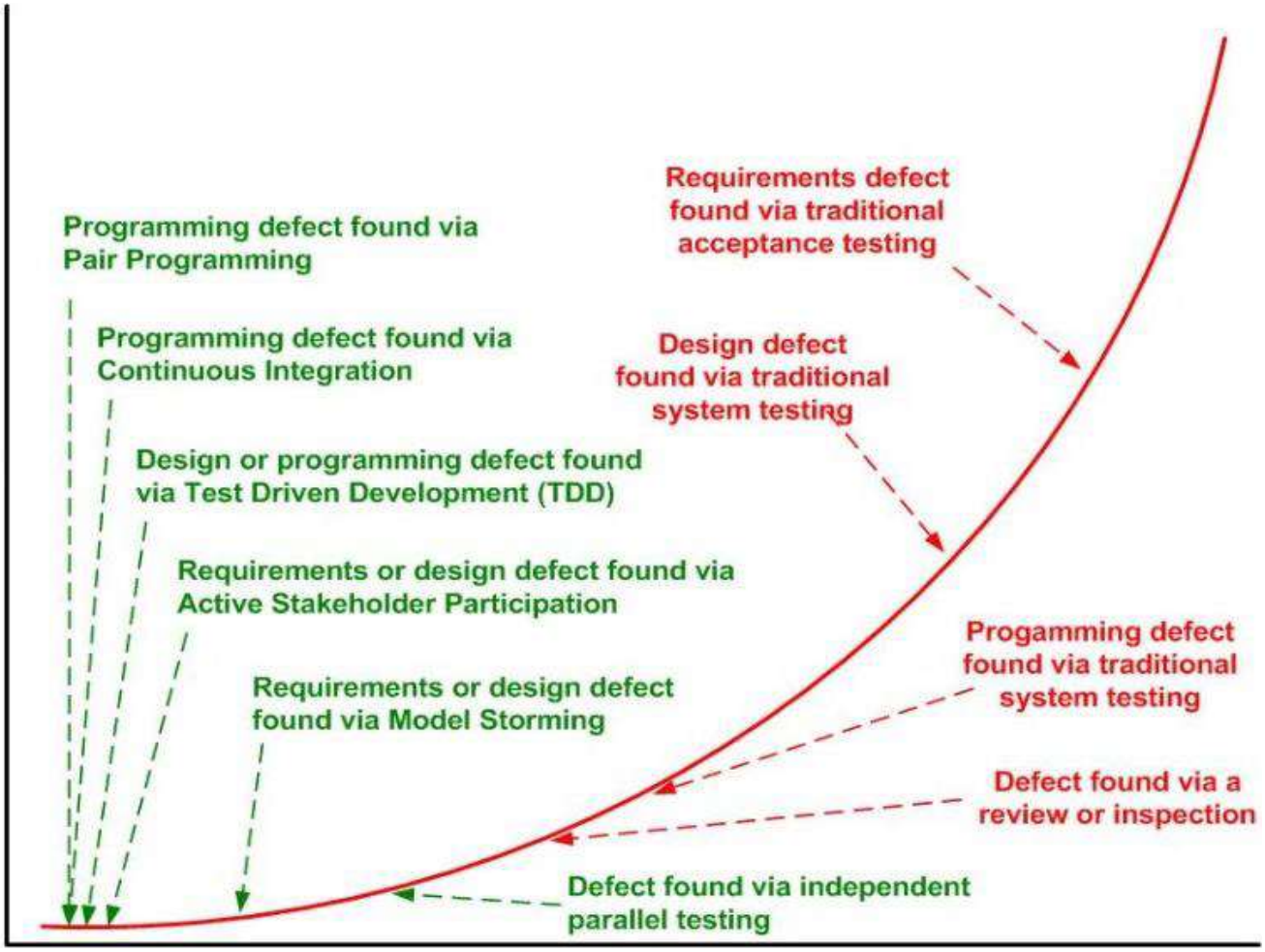
How will you understand the problem of resolution?

- Problems can mushroom
- Problems can have ripple effects
- What happens in one area of the project affect all other areas of the project

What is the financial impact of problems?

- The longer a defect is left unaddressed, the more expensive it will be to fix
- It is like going to the dentist
- The longer you wait the more expensive it will be

Where the issues are discovered?



How will you review the technical debt?

- Backlog of work caused by lack of regular clean-up maintenance and standardization
- Refactoring solves technical debt
- Red green refactor
- Refactoring cleans up and standardize is code to make it easier to support
- Refactoring should be included in estimates

How will you create the Safe environment?

- PMI-ACP calls for safe and open environment
- People should feel comfortable experimenting for solutions
- When people get stuck they should share the problem with her teammates
- Safe environments are coaching opportunities

How will you understand the failure modes?

- We make mistakes –mistakes happen
- We prefer to fail conservatively
- We prefer to invent rather than research
- We are creatures of habit
- We are inconsistent

How will you understand the success modes?

- We are good at looking around
- We are able to learn
- We are malleable
- We take pride in our work

How will you create the success strategies?

- Balance discipline with tolerance
- Start with something concrete and tangible
- Copy and alter
- Watch and listen
- Support both concentration and communication
- Match work assignments with a person
- Retain the best talent
- Use rewards that preserve joy
- Combine rewards
- Get feedback

Detecting Problems in Agile Projects

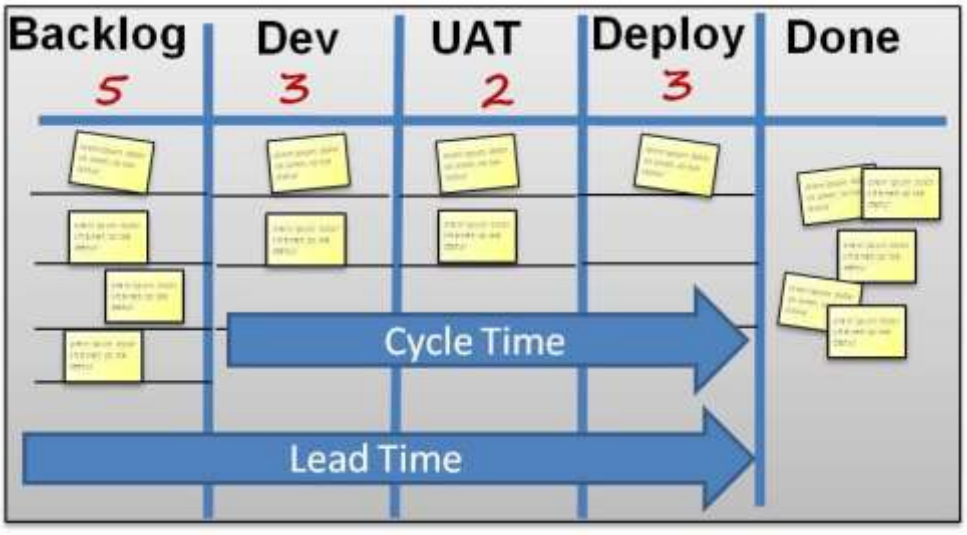
Finding Problem & Defects

How will you start a day with daily startup?

- Are there any problems or impediments to the team members?
- This is the first step to detecting problems

How will you review the Lead & Cycle time? Display in Kanban board?

- Lead time is how long something takes to go through the entire process
- For example, from concept design to shipping
- Cycle time is a subset of lead time
- Cycle time is how long something takes to go through a part of the process
- For example, from coding to testing



What do you know about Cycle Time, WIP, Throughput?

- Understanding the team's throughput allows for forecasting future capabilities
- Cycle time equals WIP / throughput

What is Project Cycle Time?

- The project duration is the cycle time for the entire project
- Average amount of work the team can get done in a time.
- Productivity is the rate of efficiency at which the work is done
- Productivity could be the amount of work done per team member

How will you look for Defect Cycle Time?

- Defect cycle time is the amount of time between when the defect was discovered and when the defect was fixed
- The longer the defect cycle time typically the more expensive the defect

What is Defect Rates?

- Defects that slip by the testing team are called escaped defects
- Escape defects are the most expensive to fix
- The defect rate measures the frequency of defects found
- An increase in escape defects signals a problem with a process

What is Variance Analysis?

- The difference between what was planned and what was experienced
- Cost variance
- Schedule variance
- Other tracking items

What are the causes for Variance?

Average day to day differences

- Good days and bad days
- Ups and downs

Special causes of variance

- Something unusual that causes a problem
- Power went out for 2 days
- Three team members caught the flu

How will you rely on trend analysis?

- Measurements of past experiences are called lagging metrics
- Leading metrics provide a view into the future
- Trend analysis aims to predict performance or problems

What are the control limits?

- Upper and lower control limits
- Set boundaries and expectations for performance
- WIP and Kanban are a form of control limits

How will you work with Risk adjusted backlog?

- Risk is considered anti value
- Goal is to attack high-risk items early in the project
- Items with the greatest value in greatest risk move to the top of the backlog

How will you groom the risk backlog?

- Stories are ranked based on business value and risk level
- The ranking is subjective often based on gut feeling or preference
- The return on investment for the project can be broken down per item
- The business representatives assign the ROI to each item in the backlog

How will you find the expected monetary value? Explain Probability Impact Risk Matrix?

- Expected monetary value is the worth of a risk event
- EMV =risk impact x risk probability
- EMV = $45,000 x 30%
- EMV = $13,500
- This is done for each risk in a probability impact matrix

Risk event	Probability	Impact	Ex$V
A	.60	-10,000	-6,000
B	.20	-75,000	-15,000
C	.10	25,000	2,500
D	.40	-85,000	-34,000

Contingency reserve = $52,500

What is Risk Severity?

- Instead of risk probability and dollar amounts
- Probability and impact uses a simple scale
- For example, low medium high
- Risk severity =risk probability x risk impact
- Risk severity = 3 x 1

What is Risk Burndown Chart?

- Stacked area graphs of cumulative project risk severity
- Visual communication of risk events
- Severe these for each risk are plotted on top of one another to show the cumulative severity of the project
- Overtime risk should diminish so the chart diminishes as well

Solving Problems

Solving Problems for Agile Projects

How would you identify problem solving is in continuous improvement?

- Problem solving games to fix the problem before it happens
- Consider daily standup
- Iteration reviews and retrospectives
- Sprint planning sessions

How would you enlarge the team in problem solving?

- By asking the team for a solution we inherit consensus for the proposal
- Engaging the team excesses a broader knowledge base
- Team solutions are practical
- When consulted people work hard to generate good ideas
- Asking for help shows confidence
- Seeking others ideas models desired behavior

What are the considerations for team engagement?

- Involve the team where it can be most helpful
- Solve real problems only
- Team cohesion is necessary
- Check in after project changes
- Be sure to follow through

What are the problems cannot be solved?

- **Even with team engagement some problems won't find a solution**
- **Work around these problems**
- **Track and monitor the problems**

Problem Detecting & Resolution Practice Questions

1. The Problem Detection and Resolution aspect of agile project consists of all of these except_____

A. Encourage experimentation and communication in order to discover problems or impediments that prevent maximal value delivery.

B. Identify and resolve issues and threats on time by engaging the whole team.

C. Issues should be resolved by appropriate team member(s). In the case the issue cannot be resolved; the team should communicate with appropriate stakeholders to adjust project expectations and priorities.

D. Finding the escalating factor of the problem.

Ans: D. Finding the escalating factor of the problem, this statement is not presented in agile problem determining steps. Choices A, B, and C are incorrect for this question.

2. It is the uncertainty that could affect the success or failure of a project; it becomes a problem after occurrence. The characteristics stated above implies to which of the following?

A. Mistake.

B. Error.

C. Risk

D. None of the above.

Ans: C. Risk. Choices A, B, and D are incorrect for this question.

3. According to agile threat management, in order to maximize values, which of these risks should be utilized?

A. Positive risk.

B. Negative risk.

C. Compromise risk.

D. None of the above.

Ans: A. Positive risk. Choices B, C, and D are incorrect for this question.

4. In risk or threat management, which of these shares the same meaning with negative risk?

A. Devaluing risk.

B. Anti-value risk.

C. Null value risk.

D. All of the above.

Ans: B. Anti-value risk, in accordance to agile context.

5. The core risks mentioned in the book "The Software Project Manager's Bridge to Agility" includes all of the following except_____

A. Scope creep.

B. Project variation.

C. Specification breakdown.

D. Extrinsic schedule.

Ans: D. Extrinsic schedule. Choices A, B, and C are incorrect for this question.

6. Which of these is defined as the acceptance criterion and acceptable risks accompanying a project?

A. Validation.

B. Compliance.

C. Verification.

D. Done.

Ans: D. Done is the right choice. Choices A, B, and C are incorrect for this question.

7. In user requirements collection, the form of testing created for continuous feedback to effect quality improvement and assurance includes?

A. Unit testing.

B. Automated testing.

C. Quality testing.

D. None of the above.

Ans: A. Unit testing. B, C and D are incorrect for this question.

8. _____ is the measure of how far apart things are; i.e. how much the data vary from one another.

A. Trend analysis.

B. Variance analysis.

C. Project analysis.

D. None of the above.

Ans: B. Variance analysis. Choices A, D, and C are incorrect for this question.

9. Another tool for carrying out cause and effect analysis to help discover the root cause of a problem or the bottle necks of processes is_____

A. Trial diagram.

B. Root diagram.

C. Fishbone diagram.

D. Scatter diagram.

Ans: C. Fishbone diagram. A, B, and D are incorrect for this question.

10. Which of these is the technique involved in the application of a Fishbone diagram_____

A. Writing down the problem as the fish head.

B. Thinking of major factors involved in the problem, at least four.

C. Identifying possible causes and draw a line spinning off the major factors.

D. All of the above.

Ans: D. All of the above. Choice A, Bor C only is incorrect for this question.

Lesson 8 CONTINIOUS IMPROVEMENT

Topics to Discuss

- Continuous Improvement Overview
- Continuous Process Improvement
- Continuous Product Improvement
- Continuous People Improvement

What are the Continuous Improvement Tasks?

- Periodically review and tailor the process
- Improve team processes through retrospectives
- Seek product feedback via frequent demonstrations
- Create an environment for continued learning
- Used values dream analysis to improve processes
- Spread improvements to other groups in the organization

What are the lessons learned to be captured?

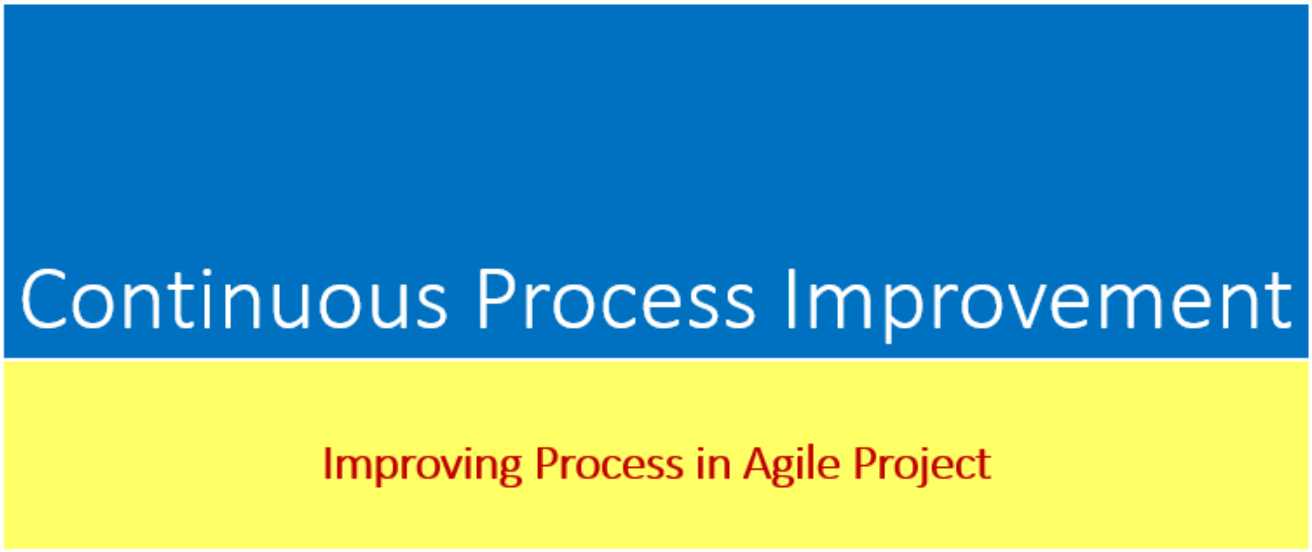
- Lessons learned are captured in each iteration
- Allows lessons to be applied in next iterations
- Lessons are repeated until they are learned

How will you improve quality along with continuous improvement?

- Quality assurance is prevention driven
- Quality assurance is planning for quality
- Quality control is inspection driven
- You cannot inspect quality into a product

What is Kaizen?

- Japanese word meaning change for the better
- Small incremental steps for improvement
- Plan Do Check Act
- Plan, develop, evaluate learn



How will you tailor the process for Agile Projects?

- Adapting agile for your environment
- There is some risk with tailoring
- Better to create processes for each project as needed
- Consider risk and reward

What are the risk and reward for process tailoring?

- First embrace traditional agile processes before attempting to change
- Second examine the motivation for changing processes

Why to use Hybrid Model?

- You can use elements from different agile models
- Combinations to best fit your environment
- There's no right or wrong hybrid

What is System thinking?

- Understanding the system's level environment
- Classifying projects by their level of complexity and uncertainty
    - Project requirements
    - Technical approach
- Looking for a balance between simple and highly chaotic

How will you conduct Process Analysis?

- Reviewing and diagnosing issues with agile methods
- Trying to discover what does and does not work
- Often done after process tailoring

What will be the impact of Antipatterns of methodologies?

- One-size-fits-all projects
- Intolerant processes
- Heavy methodologies
- Embellished methodologies
- Untried methodologies
- Used only once

What are the 3 success criteria for Antipatterns?

- The project got shipped
- The leadership remained intact
- The team would work the same way again

What are the Success Patterns Methodology?

- Interactive face-to-face communication is the cheapest and fastest channel for exchanging information
- Excess methodology weight is costly
- Larger teams need heavier methodologies
- Projects with greater criticality require greater ceremony
- Feedback and communication reduce the need for intermediate deliverables
- Discipline skills and understanding counter process formality and documentation
- Efficiency is expendable in on bottleneck activities

What is Visual Stream Mapping?

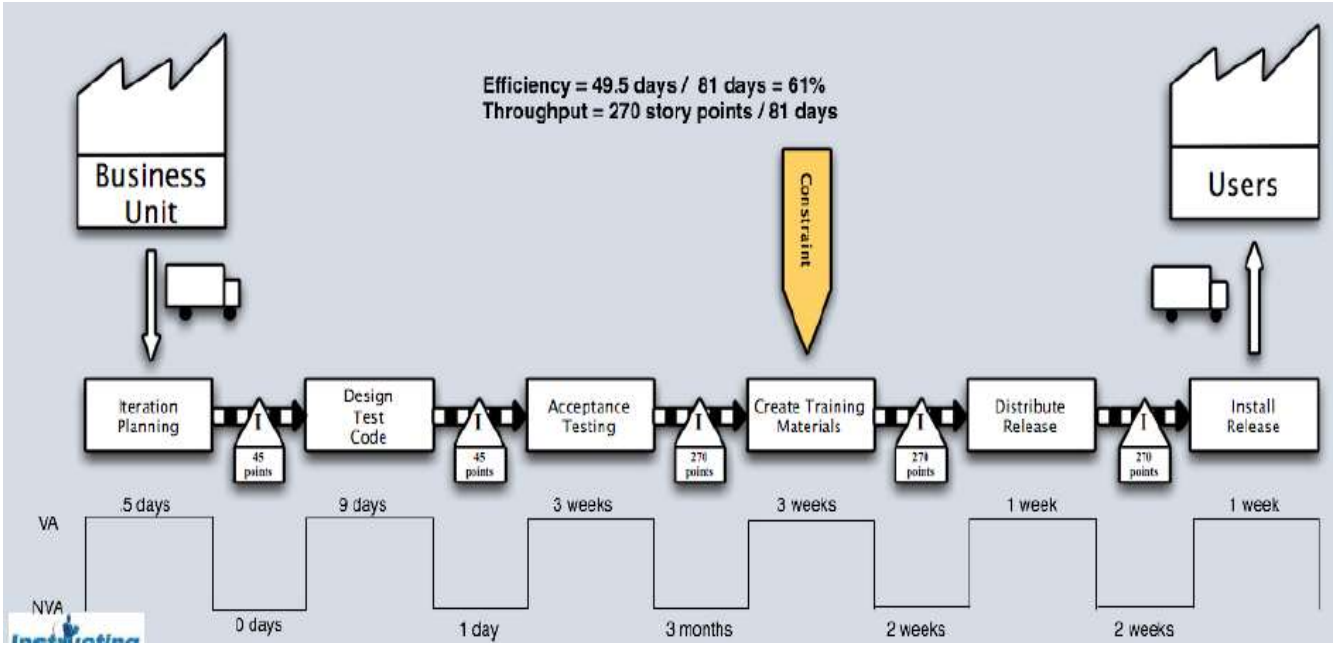
- Lean manufacturing technique adopted by agile
- A visual map of a process flow to identify delays waste and constraints

What is Project Postmortem?

- Aims to find failure points before they happen
- Imagine the failure
- Generate the reason for failure
- Consolidate the list
- Revisit the plan

How to create Visual Stream Mapping?

- Identify the product or service to be analyzed
- Map current processes steps, queues, delays, and information flows
- Review the map for delays waste and constraints
- Create a new value-stream map of the desired future state for the process
- Develop a road map for creating the optimized state
- Plan to revisit the process in the future to continually refine and optimize



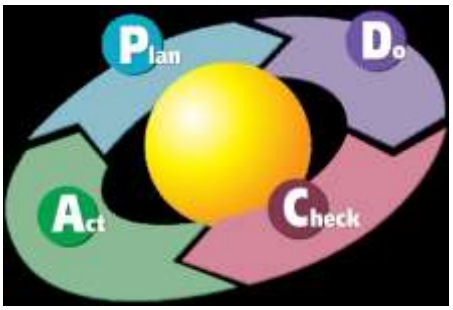
Continuous Product Improvement

Products are iteratively and incrementally improved

What are the ways to collect Product Review?

- **Product feedback**
- **Retrospective and demos**

What is P D C A cycle?



What are the Agile Review Rules?

- Let the data speak for itself
- Respect individuals
- Diverge and then converge

What are the product feedback loops & learning cycles in Agile?

- Does it meet the customer's needs and expectations?
- Does it work and all conditions?
- Did we break anything while building this?
- How can we improve efficiency?
- How can quality be improved
- How can we share lessons learned?

What are the product feedback methods?

- Prototypes
- Simulations
- Demos

How would we conclude the iterations get approved?

- Iterations and sprint reviews
- Held at the end of a sprint
- Demonstrates the new incremental build
- Business partner approved work
- Next sprint may begin

What is the importance of Retrospective for people improvement?

- What is going well
- What areas could use improvement
- What should we be doing differently

Why do you need Retrospective?

- Improve productivity
- Improved capabilities
- Quality improvement
- Capacity improvement

How will you set the stage for Retrospective?

- Encourage participation
- Set the ground rules
- Define what people want from the retrospective
- Have people checking in with one or two words
- Ask the team to commit to focus
- Explorer shopper vacationer prisoner
- Working agreements for the retrospective

How will you gather data for Retrospective?

- Used techniques to extract data
- Get people involved in contributing
- Facilitate the meaning for contributions

What are the methods for gathering data in Retrospective?

- The team creates a timeline
- Triple nickels –five groups spending five minutes on 5 ideas 5 times
- Color-coded dots –used color-coded dots to track your energy was high and low throughout the duration
- Mad sad or glad –track emotions throughout the timeline

What are the methods can be followed during data collection?

- Satisfaction histogram –a bar chart showing satisfaction about particular areas or issues
- Team radar –an assessment of performance improvement
- Locates strengths -what went well, or not well, in the iteration
- Like to like –compares reactions to different iteration events

How will you generate insights?

- Evaluate the data
- Create insights based on the data
- Done with the project team

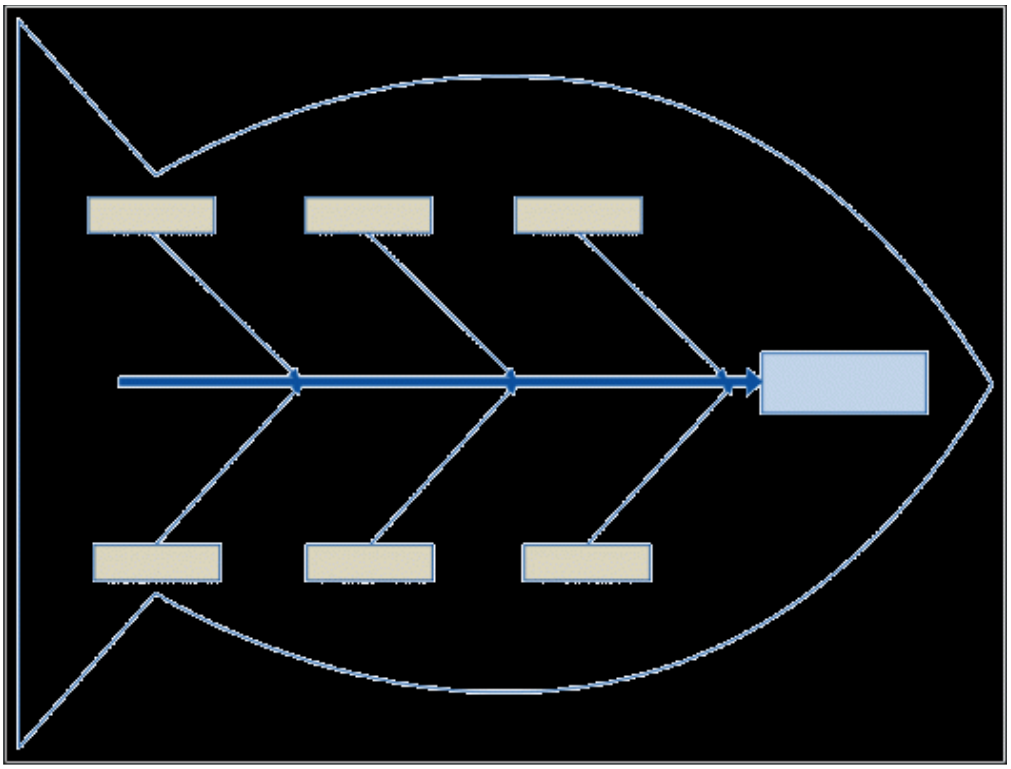
What are the types of brainstorming sessions?

- Quiet writing
- Round robin
- Free for all

What is Five Whys?

- Cause and effect exercise
- Small groups
- Ask why five times
- The goal is to find root cause

What is Fish-bone analysis?



- Also known as a cause and effect diagram
- Also known as an Ishikawa diagram

How will you decide What will we do in conducting Retrospective?

- Create an action plan
- Short subjects –keep drop add

- Smart goals –specific measurable attainable relevant timely
- Circle of questions –each person ask a question on how to improve one of the issues in the next person of the circle answers the question
- Retrospective planning game –play in the task to reach process improvement goals

How will you close the Retrospective?

- Plus / delta –what to do more of and what to do less of
- Help hindered hypotheses –feedback on the retrospective
- Return on time invested –the team discuss the benefits of the retrospective and gives a great
- Appreciation –the team gives appreciation to other team members based on efforts from the last iteration

What are the ways in conducting team assessments?

Shores team self-assessment scoring model

- Thinking
- Collaborating
- Releasing
- Planning
- Developing

Continuous Improvement Practice Questions

1. Which of the following tasks is present in "continuous improvement" with regards to Agile principle?

A. Review product processes and practices periodically to look for rooms for improvement and efficiency enhancement.

B. Conduct frequent retrospectives and experiments to continually improve team processes and effectiveness.

C. Gather feedback from stakeholders on product increments and demonstrations to enhance value delivery.

D. All of the above.

Ans: D. All of the aforementioned are parts of the task. Choice A, B or C only is not correct for this question.

2. In the aspect of integration, testing and experiment. "Continuous integration" involves all of these objectives except_____

A. To continuously integrate changes to the codebase by merging the new codes as soon as practicable.

B. To avoid code conflicts and minimize risks of incompatibility.

C. On every integration, the codebase needs to be tested with automated testing tools.

D. Disseminate knowledge gained during carrying out of project works to the whole organization for organizational improvement.

Ans: D. Disseminate knowledge gained during carrying out of project works". This is a task only in "continuous improvement". Choices A, B, and C are incorrect for this question.

3. A set of typical settings for continuous integration includes which of the following?

A. A source code repository.

B. A check-out and check-in process.

C. An automated build process.

D. All of the above.

Ans: D. All of the afore stated are involved in the settings. Choices A, B or C only are In correct for this question.

4. Which of these types of testing involves finding out how the software actually works, and to ask questions about how it will handle difficult and easy cases by asking test subjects to try the software?

A. Unit testing.

B. Exploratory testing.

C. Usability testing.

D. None of the above.

Ans: B. Exploratory testing. Choices A, C, and D are incorrect for this question.

5. All of the followings are parts of the significance of Agile learning cycle except_____

A. Helps to provide insights on the design of the software.

B. Agile software development is about learning from little known about the end product in the beginning to hopefully delivering the maximal value in the end.

C. Each retrospective is an opportunity to learn.

D. Understanding of the requirements as well asthe technology to make the product feasible and increase incrementally during the project.

Ans: A. Helps to provide insights on the design of the software", this only pertains to testing. Choices B, C, and D are incorrect for this question.

6. Which of these fully defines an Agile process for self-evaluation to be performed at the end of each iteration slightly similar to the “postmortem” meeting or “lessons learned” meeting in traditional project management?

A. Retrospective.

B. Review.

C. Iteration conference.

D. All of the above.

Ans: A. Retrospective. Choices B, C, and D are incorrect for this question.

7. Which of these refers the Agile project management as an ad hoc meeting by the Agile team to review on the team practices or teamwork during the sprint, often called for when something went wrong?

A. Pre-mortem.

B. postmortem.

C. Introspective.

D. None of the above.

Ans: C. Introspective. Choices A, B, and D are incorrect for this question.

8. Which of these is the activity during which team members are asked to generate plausible reasons for a project’s assumed failure.

A. Postmortem.

B. Infraction.

C. Pre-mortem.

D. Retrospectives.

Ans: C. Pre-mortem. Choices A, B, and D are incorrect for this question.

9. Which of these is the essential act of maximizing the amount of work not done?

A. Value Stream Mapping.

B. IT development projects.

C. Lean manufacturing.

D. None of the above.

Ans: A. Value Stream Mapping. Choice B, C, and D are incorrect for this question.

10. All of the objectives of Value Stream Mapping involve the followings except_____

A. Provision of optimum value flow to customers through value creation processes.

B. Elimination of wastes in every process through analysis such as value stream mapping and enhancements.

C. It serves as a graphical tool for analyzing the flow of materials in manufacturing from its beginning through to the customer.

D. To make it safe for team members to voice out their reservations about the project direction and so on.

Ans: D. "To make it safe for team members to voice out their reservations", this pertains only to pre-mortem. Choices A, B, and C are incorrect for this question.

Lesson 9 PMI-ACP PRACTICE QUESTIONS

1. The extreme programming role that keeps the Agile team focused on learning and the process of delivering value is the_____

A. Supervisor

B. Coordinator

C. Coach

D. Inspector

Ans: C. In conformity with Agile terminologies, the above is the responsibility of the Coach. Choices A, B, D are incorrect for this question.

2. Which of these is the ability to relate to others and lead?

A. Superiority

B. Emotional intellect.

C. Extreme persona.

D. Emotional intelligence.

Ans: D. Being able to relate to others and lead is part of emotional intelligence. Choices A, B and C are incorrect for this question.

3. The Agile term, “grooming”, means which of these:

A. Arranging of valuable software in order.

B. Keeping Agile premises tidy by wiping off glasses, re-arranging objects and cleaning floors.

C. Cleaning up the product backlog by removing items, disaggregating them, or estimating them.

D. Sorting Agile products in order of magnitude.

Ans: C. Cleaning up the backlog is the right definition for the above. Choices A, B, D are incorrect for this question.

4. Through which of these boards is work flow stages easily determined?

A. Workflow board.

B. Project board.

C. Glancing board.

D. Kanban board.

Ans: D. The Kanban board is used to see at a glance what work is in progress and where work items are in the project. Choices A, B, C are incorrect for this question.

5. The tool for analyzing a chain of processes with the aim of eliminating waste is:

A. Value Stream Mapping.

B. Verification

C. Analyzer

D. Process Monitor.

Ans: A. Value stream mapping is the tool used to conduct analysis on ongoing processes. Choices B, C, D are incorrect for this question.

6. Which of these implies ensuring that a product conforms to the specifications?

A. Inspection

B. Verification

C. Perusal

D. Validation

Ans: B. Verification entails checking the conformity of a product in terms of specification. Choices A, C, D are incorrect for this question.

7. In an agile project what is velocity?

A. Number of services rendered by agile team per day.

B. Number of agile products manufactured per day.

C. Amount of resources consumed per product in the manufacturing process.

D. The number of features or user stories that a team delivers in a fixed iteration.

Ans: D. Velocity, according to agile, means the number of user stories delivered by a team in a fixed iteration. Choices A, B, C are incorrect for this question.

8. A project costs $450,000, but once it's implemented it will be worth $567,000. This is known as what?

A. Return On Investment.

B. Rate Of Investment.

C. Retrieval Of Information.

D. Rate Of Improvement.

Ans: A. ROI is a term in Agile glossary, it means Return On Investment. Choices B, C, D are incorrect for this question.

9. Which of these is the function of a story card?

A. It contains the list of all Agile products.

B. It holds the user story information.

C. It contains the details of all agile recent and current staffs.

D. It serves as the license to working with Agile project team.

Ans: B. The story card contains the user story. Choices A, C, D are incorrect for this question.

10. Sustainability refers to the:

A. Ability to realize great productivity from meager resources.

B. Pace of work or velocity that can be maintained by a team indefinitely.

C. Indefinite and efficient functioning of a manufacturing machine.

D. None of the above.

Ans: B. Pace of work or velocity that can be maintained. Choices A, C, D are incorrect for this question.

11. This item has no value:

A. Work In Persistence.

B. Waiting In Progress.

C. Work In Progress.

D. Work In Permanence.

Ans: C. WIP is the work in progress and has no value until the work is completed.

12. The decisions that the team chooses not to implement at a particular time, but will become obstacles if not done are called?

A. Logical debt.

B. Technical debt.

C. Reasonable debt.

D. Probable debt.

Ans: C. Technical debt, being a decision that can create an unforeseen obstacle for a team if postponed. Choices A, B, D are incorrect for this question.

13. The collaboration technique where the entire team is focused on a single story is called?

A. Merging

B. Coalescing

C. Swarming

D. Perming

Ans: C. Swarming is the techniques involved in the described process. Choices A, B, D are incorrect for this question.

14. Empowered group of individuals, collectively responsible for delivering value on a project is?

A. Colleagues

B. Staff

C. Coworkers

D. Team

Ans: D. The empowered group of individuals indicates a team. Choices A, B, C are incorrect for this question.

15 In which of these ways does an agile project manager and project team enhance transparency and trust with its customers?

A. Through mutual understanding of terms and conditions.

B. Through the use of common communication media.

C. Maintaining the use of highly visible information radiators to show the progress of the projects in process.

D. Through some special advertisements of their products.

Ans: C. Maintaining the use of highly visible information radiators. Choices A, B, D are incorrect for this question.

16. What does Agile value the most about empirical learning?

A. It's believed that experience can be gathered from practical activities due to possibility of making mistakes.

B. It is able to enrich an individual with enough knowledge to invent.

C. It stimulates one's theoretical approach to a project.

D. It facilitates one's problem solving techniques.

Ans: A. It's believed that experience can be gathered from practical activities. Choices B, C, D are incorrect for this question.

17. Which of these means of communications will Agile encourage in sharing knowledge during a project work?

A. Communication through sophisticated technological gadgets.

B. Communication through body language.

C. Face to face communication.

D. Communication through internal memorandum.

Ans: C. face to face communication is recommended. Choices A, B, D are incorrect for this question.

18. Among all of these tools, which one is not used in knowledge sharing?

A. Kanban board.

B. Bulletin boards.

C. White boards.

D. None of the above.

Ans: D. None of the above as all of the above are used in knowledge sharing.

19. Which of these is the advantage of using Agile terminologies?

A. Ability to create a common understanding of the values and principles of Agile.

B. To minimize the use of excessive words in communication processes.

C. To encourage being brief and easily understood.

D. To prevent loss of concentration while trying to communicate.

Ans: A. Ability to create a common understanding of the values and principles of Agile. Choices B, C, D are incorrect for this question.

20. Why is carrying out experiments important as a member of Agile project team?

A. Because it widens one's practical knowledge.

B. Because it's real, unlike in theory.

C. Due to the fact that it's involving.

D. It enhances creativity and the ability to discover efficient solutions.

Ans: D. It enhances creativity and the ability to discover efficient solutions. Choices A, B, C are incorrect for this question.

21. Which of these is not the advantage of collaboration while working on a project?

A. It enhances knowledge sharing through efficient communication.

B. Removal of knowledge silos and bottlenecks.

C. It saves time and energy.

D. Costs are automatically reduced.

Ans: D. While collaboration is a good practice, it doesn't ensure that costs will be automatically reduced. Choices A, B, and C are incorrect answers.

22. Which of these is not part of the Agile mindset?

A. Collaborate with one another to enhance knowledge sharing as well as removing knowledge silos and bottlenecks.

B. Establish a rewards and recognition system for the employee of the month throughout the project duration.

C. Establish a safe and respectful working environment to encourage emergent leadership through self-organization and empowerment.

D. Support and encourage team members to perform their best by being a servant leader.

Ans: B. An employee of the month program is an example of a zero-sum reward, something to avoid in agile projects. Choices A, C, and D are part of the Agile mindset.

23. Which of these does Agile valued over Processes and tools?

A. Individuals and interactions.

B. Working software.

C. Customers collaboration.

D. Responding to change.

Ans: A. individuals and interactions is the right choice. Choices B, C, D are incorrect for this question.

24. Beth is a new Agile project manager and she's reviewing the Agile approach with her development team. Which one of the following isn't part of Agile?

A. Users Involvement.

B. Predictive planning.

C. Fixed Time Box.

D. Team Empowerment.

Ans: B. Predictive planning isn't part of the agile approach so this choice is incorrect. Choices A, C, and D are part of the agile approach.

25. Agile methodologies involve:

(i) Scrum

(ii) XP (eXtreme Programming)

(iii) Kanban

(iv) LSD (Lean Software Development)

A. i, ii

B. i, ii, and iii.

C. iv only

D. I, ii, iii, iv

Ans: D. all of the above options are involved in the Agile methodologies. Option A, B or C only is incorrect for this question.

26. Which one of these is not an attribute of Define Positive Value?

A. Deliver work incrementally to gain competitive advantage and early realization of value.

B. Maximize values delivered to stakeholders while at the same time minimize non-value added work.

C. Use a command-and-control approach when it comes to value assurance.

D. Reach consensus on the acceptance criteria of the deliverables.

Ans: C. Command-and-control isn't part of Agile and value delivery. Choices A, B, and D are components of defining positive value.

27. Soliciting feedback from stakeholders and review frequently to enhance value are part of

A. Prioritization of resources.

B. Avoiding potential downsides.

C. Incremental development.

D. Organizational Improvement.

Ans: B. Avoiding potential downsides in the project. Choices A, C, D are incorrect for this question.

28. What is value-driven delivery?

A. An over-arching principle for Agile projects.

B. A prioritizing principle established by Agile.

C. An advertising principle intended to improve sales.

D. Revitalization of products to improve its value.

Ans: A. Value-driven delivery is an overarching principle for Agile project. Choices A, B, C are incorrect for this question.

29. Agile's main purposes for carrying out projects does NOT include

A. Economic benefits.

B. Risk taking.

C. Reducing risks.

D. Competitive advantages.

Ans: D. Risk taking is the correct option. Choices A, B, C are incorrect for this question.

30. _____ is the process where customers select product backlog for implementation based on the perceived values?

A. prioritization

B. selection

C. patronization

D. Condescension

Ans: A. prioritization is the right choice. Choices A, B, C are incorrect for this question.

31. When a project will have value over multiple time periods, such as quarters or years, what value assessment approach is recommending?

A. Net Profit Value.

B. Net Present Value.

C. Net Product Verified.

D. Net Product Validated.

Ans: B. Net Present Value. Choices A, C, D are incorrect for this question.

32. A positive NPV implies that_____

A. The project is not profitable.

B. The project is not so profitable.

C. The project is substantially profitable.

D. None of the above.

Ans: C. the project is substantially profitable. Choices A, B and D are incorrect for this question.

33. Which of these appropriately defines the InternalRate Return?

A. The profit an organization earns from investments.

B. The interest rate of an investment.

C. The net remittance earned from a project.

D. A present value in future valuation.

Ans: B. The interest rate of an investment implies the Internal Rate Return. Choices A, C, D are incorrect for this question.

34. The relationship between the Internal Rate Return and the profit realized from a project are?

A. Directly proportional.

B. Inversely proportional.

C. Negligible

D. Insignificant

Ans: A. The higher the positive Internal Rate Return, the more profitable the project, i.e., Direct proportionality. B, C, D are incorrect for this question.

35. Which of these is not a type of prioritization?

A. Value based prioritization.

B. Customer based prioritization.

C. Requirements Prioritization.

D. Differential Prioritization.

Ans: D. Differential Prioritization is not a type of prioritization. A, B, C are incorrect for this question.

36. Relative prioritization is otherwise known as

A. Ranking

B. Respective prioritization.

C. Differential prioritization.

D. Requirements Prioritization.

Ans: A. Ranking is the other term for Relative prioritization. Choices B, C, D are incorrect for this question.

37. What is MMF in agile?

A. Minimally Marketable Features.

B. Moderately Marketable Features.

C. Minimally Manufactured Features.

D. Multi Marketable Features.

Ans: A. Minimally Marketable Features. Choices B, C, D are incorrect for this question.

38. Which of these clearly defines Minimally Viable Products?

A. The minimal product (with just essential features and no more) that can be shipped to early adopters to see and learn from the feedback instantly.

B. Products that contain both the essential and additional features needed by a consumer.

C. products that only last for a short period of time.

D. Meagerly Manufactured products.

Ans: A. The minimal product with key features. Choices B, C, D are incorrect for this question.

39. Characteristics of self-organization and empowerment team does NOT include

A. Team formation.

B. Work allocation (members are encouraged to take up works beyond their expertise).

C. Self-management.

D. Self-appraisal.

Ans: D. Self- appraisal, this is not among Self-organization and Empowerment practice. Choices A, B, C are incorrect for this question.

40. Which one of the following is not an example of information radiator?

A. Kanban board.

B. Burn down chart.

C. White board.

D. Story Card.

Ans: D. A Story Card holds the user's information, not an information radiator.©Instructing.com, LLC www.instructing.com 17

41. According to the Agile principles and mindsets, which of these is valued over comprehensive documentation?

A. Working software.

B. Customers collaboration.

C. Responding to change.

D. Individuals and Interaction.

Ans: A. Working software. Choices B, C, D are incorrect for this question.

42. In an agile project, visibility is defined as which one of the following?

A. The concept that each team member's work and progress should be transparent to all stakeholders.

B. The concept which enforces prioritization.

C. The concept which focuses on the significance of information radiators.

D. The concept that every agile team member should remain interactive when handling a project.

Ans: A. The concept that each team member's work and progress should be transparent to all stakeholders. Choices B, C, D are incorrect for this question.

43. Which of the enlisted guidelines clearly defines validation?

A. Making sure that the product manufactured is acceptable to the customers.

B. Ensuring that the product meets the required specifications.

C. Ensuring that the product is well packaged.

D. All the above.

Ans: A. Acceptability. Choices B, C, D are incorrect for this question.

44. In conformity with Agile terminologies, the personnel who measures the team's progress (against the iteration plan, the release plan, test, etc.) and radiates theinfo to the team is the_____

A. Monitor

B. Supervisor

C. Tracker

D. Coach

Ans: C. Tracker is the right term. Choices A, B, D are incorrect for this question.

45. Someone in an Agile project who is involved but not committed is referred to as a _____:

A. Duck

B. Duckling

C. Fowl

D. Chicken

Ans: D. Chicken is the correct term. Choices A, B, C are incorrect for this question. 18

46. The document that contains all the details about an ongoing project is known as the_____

A. Log book

B. Catalogue

C. Charter

D. project document.

Ans: C. Charter is the correct word. Choices A, C, D are incorrect for this question.

47. In Agile, the rate at which resources are consumed in a production process is_____

A. Consumption rate

B. Burn rate

C. Utilization rate

D. Usability

Ans: B. Burn rate implies the rate of consumption. Choices A, C, D are incorrect for this question.

48. The process of keeping stakeholders informed and meeting their needs is referred to as _____.

A. Stakeholder assistance.

B. Stakeholder management.

C. Stakeholdering.

D. None of the above.

Ans: B. Stakeholder management is the right term. Choices A, C, D are incorrect for this question.

49. Reorganizing working code to improve functionality and maintenance refers to_____:

A. Revitalization

B. Revision

C. prioritization

D. Refactoring

Ans: D. Refactoring is the appropriate term for this process. Choices A, B, C are incorrect for this Q.

50. Which one of the following is the best example of anti-value?

A. User story writing workshops.

B. Predictive project management.

C. Risk

D. Time

Ans: C. Risk is considered an anti-value in agile project management. Choices A, B, and D are incorrect.

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