# Kanban Boards

RefineM PROJECT MANAGEMENT CONSULTING

**NK Shrivastava,** PMP, RMP, ACP, CSP, SPC4
CEO/Consultant/Agile Coach - RefineM



## Agenda

1. What is Virtual Lunch & Learn
2. Your Expectations from this Webinar
3. Kanban Boards
4. Upcoming Learning Opportunities from RefineM
5. How to get 1 PDU for this Webinar?
6. Rewarding Our Star Attendees
7. Q & A

## RefineM's Virtual Lunch & Learn

**This is a monthly webinar delivered during the lunch hour in the first week (Wednesdays) of every month.**

**It's designed to help you learn while you eat lunch, providing a relaxed environment to enhance your experience.**

**The monthly webinars will cover a variety of Project Management / Agile topics.**



## Your Expectations

What are your expectations from this webinar?

Why are you here today?

# NK Shrivastava, PMP, RMP, ACP, CSP, SPC4

RefineM

**Helping organizations turn their project management capability into a *competitive advantage***

CEO/Consultant since Dec 2011

- Agile Transformation/Coaching/Adoption
  - ✓ Agile Coach @ IBM
- Project Management/ Process Improvement Consulting and Training
- Products for Project Professionals
  - ✓ Essential Gear for Project Managers
  - ✓ PMP Exam Simulator
  - ✓ PMP Videos at Vimeo

My professional journey b/f RefineM

20+ years of Successful Project Leadership

- Led 100s of projects of all sizes, successfully
- Recovered many projects, saved millions of $
- Implemented numerous process improvements
- Coached/mentored 100s of PMs, and executives
- Board Member – SWMO PMI Chapter (2008-2014)



# What's New at RefineM

RefineM PROJECT MANAGEMENT CONSULTING

# What's New at RefineM

- Upcoming Free Webinars

| Webinar Title | Date |
|---|---|
| Role of Wireframes in Agile Requirements | Dec 6 |
| PMP Exam Changes | Jan 3 |

- New Training and Outreach
  - ✓ New class – First Steps Toward Agility
  - ✓ New workshop – Lean/Agile Process Improvement Workshop
    *(Achieve 15-40% efficiency improvements in 4-8 weeks)*
  - ✓ New live PMP video chat sessions every Saturday, 9-10 AM Central
- PMP Exam Prep Test Simulator
  - ✓ https://Examprep.RefineM.com
- PMP Videos at https://vimeo.com/ondemand/refinempmpexamprep



# Manifesto for Agile Software Development

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

**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.

***Developed in 2001 by 17 agile advocates at Snowbird resort in Utah***

# Agile Twelve Principles

1. **Satisfy the customer** thru early and continuous delivery
2. **Welcome changing requirements** even late in development
3. **Deliver working software frequently** a couple of weeks to a couple of months
4. **Work together daily** (business people and developers)
5. **Motivated individuals,** build projects around them, and give them freedom
6. **Face-to-face conversations** is the most efficient and effective method
7. **Working software** is the primary measure of progress
8. **Sustainable development** i.e. maintain a constant pace indefinitely
9. **Continuous Attention** to technical excellence & good design enhance agility
10. **Simplicity** – the art of maximizing the amount of work not done – is essential
11. **Self-organizing teams** deliver the best architectures, requirements, and designs
12. **At regular Intervals** the team reflects on how to become more effective



# Agile Practices

1. **Maintaining a Backlog / Prioritized List**
2. **Progressive elaboration**
3. **Daily standups**
4. **Frequent reviews / demos**
5. **Retrospectives**
6. **Use of Wireframes for UI design**
7. **Visualizing work through Kanban Board(s)**
8. Limiting Work In Progress (WIP)
9. Customer involvement throughout project
10. Smaller iterations

1. Continuous integration (CI)
2. Iteration planning meeting
3. Planning poker
4. Refactoring
5. Test-driven development (TDD)
6. User Stories

## Top 10 Agile Practices for Waterfall Teams

1. Maintaining a Backlog / Prioritized Requirements
2. Progressive Elaboration
3. Daily Standups
4. Frequent Review/Demos
5. Retrospectives
6. Using Wireframes for UI Design
7. Visualizing Work through Kanban Board(s)
8. Limiting Work in Progress (WIP)
9. Customer Involvement Throughout the Project
10. Smaller Iterations

RefineM

*Source: PMI-ACP Exam Prep, Second Edition by Mike Griffiths, p. 62.*



## Mapping to Agile Practices

**To which Agile principles would you map the practice of visualization?**

# Agile Twelve Principles

1. **Satisfy the customer** thru early and continuous delivery
2. **Welcome changing requirements** even late in development
3. **Deliver working software frequently** a couple of weeks to a couple of months
4. **Work together daily** (business people and developers)
5. **Motivated individuals,** build projects around them, and give them freedom
6. **Face-to-face conversations** is the most efficient and effective method
7. **Working software** is the primary measure of progress
8. **Sustainable development** i.e. maintain a constant pace indefinitely
9. **Continuous Attention** to technical excellence & good design enhance agility
10. **Simplicity** – the art of maximizing the amount of work not done – is essential
11. **Self-organizing teams** deliver the best architectures, requirements, and designs
12. **At regular Intervals** the team reflects on how to become more effective



# Mapping to Agile Principles

| Agile Practice | Matching Agile Principle |
|---|---|
| Maintaining Backlog | Welcome changing requirements |
| Progressive Elaboration | Satisfy the customer through early and continuous delivery of valuable software |
| Smaller Iterations | Deliver working software frequently |
| Daily Standups | Work together daily |
| Retrospectives | At regular intervals, the team reflects on how to become more effective |
| Frequent Review/Demos | Working software is the primary measure of progress |
| Using Wireframes for UI Design | Continuous attention to technical excellence and good design enhance agility |
| Visualizing Work through Kanban Board(s) & limiting WIP | Sustainable development |
| Customer Involvement Throughout the Project | Business people and developers must work together daily throughout the project |

## Questions from Attendees

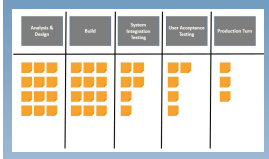
1. Basic overview of Kanban (Cristy G.)
2. How can we encourage Kanban adoption (instead of Scrum) for Software Development? (Mike F.)
3. What are easy and free tools to pilot and get the culture to buy into the concept? (Sunil C.)



## Remember, Agile Is

- **Iterative**
- **Customer Focused**
- **Data Driven**

# Kanban Board(s)



- What is it?
- How to adapt to a Waterfall Team?

RefineM PROJECT MANAGEMENT CONSULTING



# What is Kanban?

* **Kanban – from Japanese word for "visual board"**
  - ✓ Developed in a manufacturing context
  - ✓ Taiichi Ohno developed Kanban process for Toyota Production System
  - ✓ "Kanban" refers to a card that signals the need for a component
  - ✓ Kanban process is a pull system, rather than push system
    - Components are created just-in-time as they are needed, reducing waste

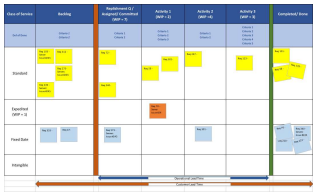
看板

Source: *Smith, Steve. Kanban Fundamentals course on PluralSight.*

# Kanban

## Rules

1. Visualize the workflow
2. Limit Work in Progress (WIP)
3. Measure and Optimize the flow



## Tools

1. Kanban Board

## Activities

1. Move items through the states
2. Identify and resolve bottlenecks



Adapted from *Essential Kanban – Condensed Guide* by David J. Anderson and Andy Carmichael.
Copyright © 2015 by Lean Kanban Inc. All Rights Reserved.



# What is the Kanban method?

**The Kanban Method** is a set of principles and practices that are applied to an existing process.



Adapted from Kanban: Successful Evolutionary Change for Your Technology Business
by David J. Anderson, Blue Hole Press Inc. Copyright © 2010 by David J. Anderson

# Kanban Principles

**The three *change management principles* of Kanban are:**

1. Start with what you do now
   - Understanding current processes, as actually practiced
   - Respecting existing roles, responsibilities, and job titles
2. Agree to pursue improvement through evolutionary change
3. Encourage acts of leadership at every level, from individual contributor to senior management

**The three *service delivery principles* of Kanban are**

1. Understand and focus on your customers' needs and expectations
2. Manage the work; let people self-organize around it
3. Your organization is an ecosystem of interdependent services, steered by its policies; reflect regularly on their effectiveness and improve them.

Adapted from *Essential Kanban – Condensed Guide* by David J. Anderson and Andy Carmichael.
Copyright © 2015 by Lean Kanban Inc. All Rights Reserved.



# Kanban core practices

1. Visualize
2. Limit WIP
3. Manage flow
4. Make policies explicit
5. Implement feedback loops
6. Improve collaboratively, evolve experimentally

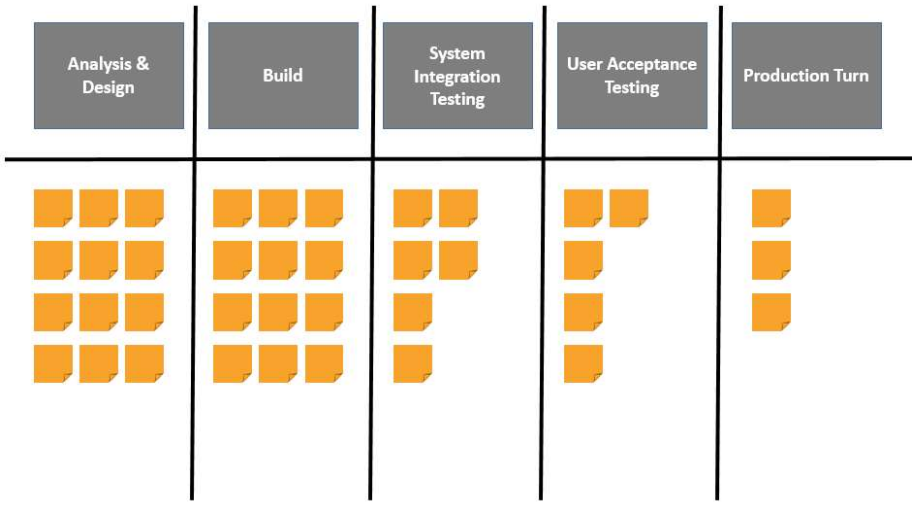
(using models and the scientific method)

## Kanban Board – How Work is Visualized

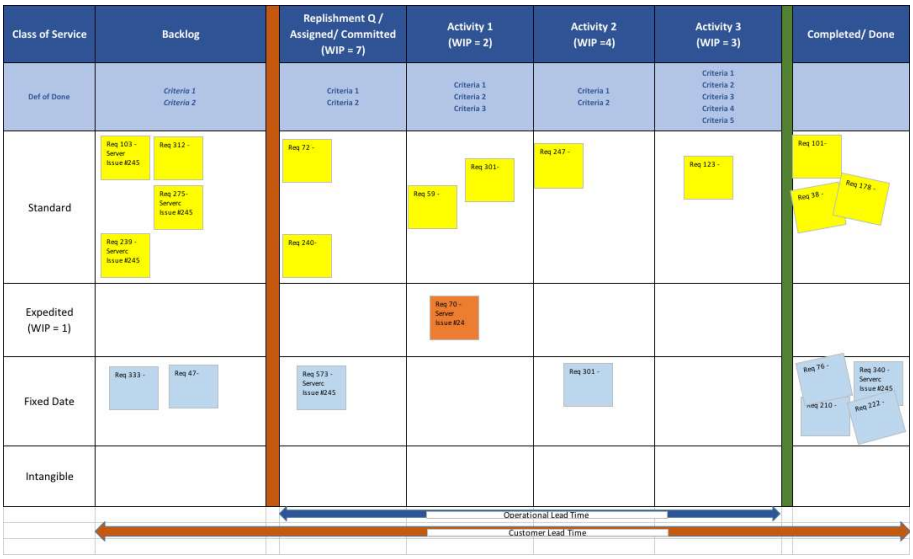
- **Kanban Board consists of:**
  - ✓ A board or wall divided into columns
    - Each column represents an activity or state of the process
    - A basic process flow is “Ready, Doing, Done”
    - Can also include a column for “Blocked” work
  - ✓ Kanban Cards
    - Physical or virtual representation of a work item
    - Can be sticky notes, index cards, or digital card on system like Trello
    - May have description of work, start date, deadline, assigned to



## Kanban Board Example



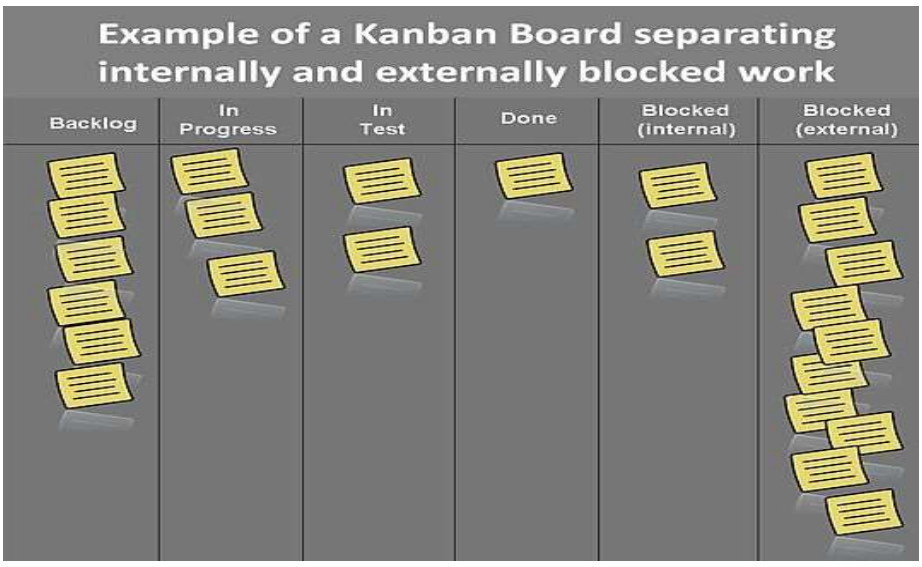
# Kanban Board




RefineM

www.RefineM.com

# Kanban Board - Example




RefineM

26

www.RefineM.com

# Benefits of Kanban

- **Improved Quality**
  - ✓ As a pull system, Kanban limits or eliminates multitasking
  - ✓ Kanban process doesn't allow shipping with known defects
- **Faster turnaround of work requests**
  - ✓ Kanban process improves lead time and process flow
  - ✓ Work in Process (WIP) is limited, leading to faster turnaround
- **Exposure and elimination of process bottlenecks**
  - ✓ Visualizing work exposes process bottlenecks
  - ✓ Value stream mapping exposes value-add and wait time (waste)
- **Reduced waste**
  - ✓ Work is pulled only when it is needed and the team has capability
  - ✓ Teams have idle time and less waste is produced
- **Improved teamwork**
  - ✓ Visualizing the workflow improves team communication
  - ✓ Limiting WIP keeps the team at right capability for efficient flow



# Starting Kanban

1. Define the Process
2. Identify Variability of Inputs
3. Model the Workflow
4. Create the Kanban Board
5. Add Swimlanes, Queues or Buffers
6. Add work items
7. Define WIP Limits
8. Measure and Manage the Flow

看板

## 1. Define Process and exit criteria

- **What are the steps of the process?**
  - ✓ They will become your columns
- **What are the criteria to move?**
  - ✓ What criteria need to be satisfied for work items to move from left to right?



## 2. Identify Variability of Inputs

- **What types of work items come into the queue?**
  - ✓ For example, requirements, features, user stories, bugs, defects
- **What are different priorities?**
  - ✓ For example, standard, expedite, date driven etc.
- **How big are the items coming into the queue?**
  - ✓ Big items and small items both need visibility

## 3. Sketch or Model the Workflow

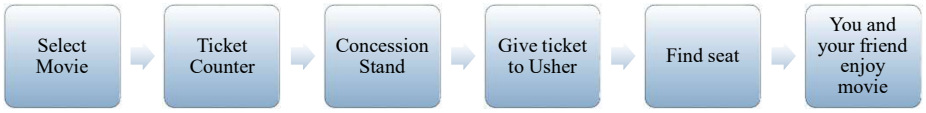
- **Make a basic sketch of the process flow**
- **This is a good time to do value stream mapping**
  - ✓ Timeline of the process showing value-added time and wait time



## Value Stream Mapping

- Lean manufacturing technique
- Illustrate flow of info or materials in a process
- Helps determine where waste can be removed
- Calculate process efficiency
  - ✓ Value-added time / Total cycle time

# Value Stream Mapping Example




Total cycle time = 120 minutes
Wait time = 30 minutes
Process cycle efficiency = Total value-add time / Total Cycle time
90/120 = **75%**

RefineM www.RefineM.com

# Value Stream Mapping Example

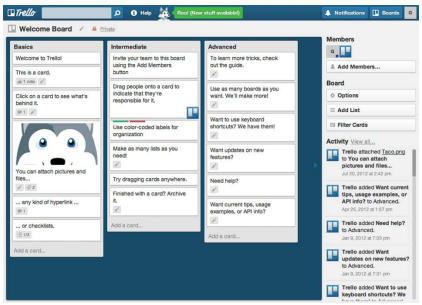
Total cycle time = 24 working hours
Wait time = 16 working hours
Process cycle efficiency = Total value-add time / Total Cycle time
8/24 = **33%**

RefineM www.RefineM.com

# 4. Create the Kanban Board

* **Physical board: Whiteboard, sticky notes, markers**

* **Digital: Trello, Leankit, Agilezen, VersionOne**
  - ✓ Trello shown below






# 5. Add Swimlanes, Queues, Buffers

* **Swimlanes can be used for:**
  - ✓ Separating work based on individual or department
  - ✓ Separating work by size or priority

* **Queues give greater visibility to blocked items**
  - ✓ Blocked / parking lot column for work with external dependency
  - ✓ NOT to be used to procrastinate on work

* **Buffers can be used to better manage flow**
  - ✓ For example, “Ready for Testing” moves to “Testing”

## 6. Add Work Items

- **Work items could have all or most of the following:**
  - ✓ Description of the work
  - ✓ Type of work
  - ✓ Start date (for tracking service request fulfillment requirements)
  - ✓ Deadline dates, if any
  - ✓ Who it is assigned to
  - ✓ Tracking # if there's an electronic system
  - ✓ Context



## 7. Define WIP Limits

- **Define how much work can be in each column**
- **Throttle incoming work if it exceeds limits**

# 8. Measure and Manage the Flow

* **Flow can be measured by:**
  - ✓ The queue/Work in Progress – leading indicator
  - ✓ Customer Lead Time – lagging indicator
  - ✓ Throughput – lagging indicator
  - ✓ Process Efficiency – lagging indicator

Source: *PMI-ACP Exam Prep,* Second Edition by Mike Griffiths.



# Daily Kanban Meeting

1. The three standard Scrum Daily Standups questions are not relevant any more. Why?

2. Then, what should the team discuss in the daily Kanban meeting?
   - Where are things stuck in the flow?
   - How can we optimize the flow?
   - What can we improve today?
   - Celebrate ”Done” items and leave the meeting on a positive note.

# Discussion

**Do you think you will be able to implement the practice of using Kanban boards in your organization?**

**Why or why not?**

**(2 minutes)**



# Conclusion

- **Kanban improves:**
  - ✓ Lead time
  - ✓ Quality
  - ✓ Trust
- **Start from what you do now?**
- **Visualize work and define WIP limits**
- **Implement Kanban using physical setup or software**

**Get started with Kanban today**

# Questions?

RefineM PROJECT MANAGEMENT CONSULTING

**NK Shrivastava, MBA, PMP, RMP, ACP, CSP, SPC4**
**CEO/Consultant, RefineM**
Nixa, MO 65714, USA
nks@refinem.com, www.refinem.com
http://www.linkedin.com/in/nkshrivastava justrightpm



# Questions from Attendees

1. Basic overview of Kanban (Cristy G.)
2. How can we encourage Kanban adoption (instead of Scrum) for Software Development? (Mike F.)
3. What are easy and free tools to pilot and get the culture to buy into the concept? (Sunil C.)

# Introducing our PMP Test Simulator

https://Examprep.RefineM.com

| Subscription Levels (all prices in USD) | | |
|---|---|---|
| **Level** | **Duration** | **Price** |
| Bronze | 2 weeks | $30 |
| Silver | 1 month | $50 |
| Gold | 2 months | $75 |
| Platinum | 3 months | $100 |

**Features:**

- 20, 40, 100, and 200-question tests
- Questions close to real exam, written by PMP-certified practitioners and instructors
- Knowledge area-wise tests
- Unlimited tests
- Score history tracking
- Stop/Restart tests
- Unlimited email/phone support

**Try risk-free for 1 day**

RefineM Contact@RefineM.com www.RefineM.com

# Subscribe Today

**About the Video Series:**

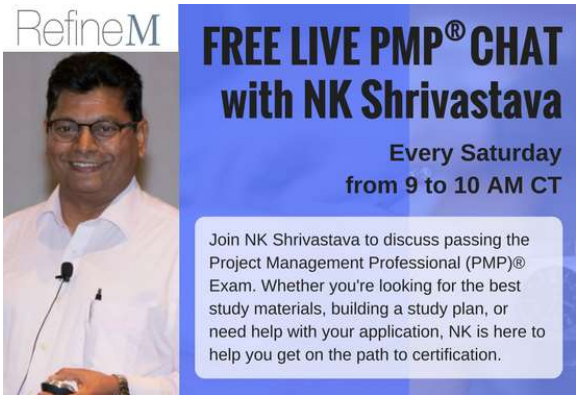
- Fully aligned to *PMBOK® Guide* 5th Edition
- 15 videos covering all process groups and knowledge areas
- Exercises included in each video for greater understanding
- $99/month for subscription to all videos
- $29/month for individual video rental
- Unlimited free email/phone support

*Prepare for the PMP® Exam at your own pace.*

**More details at https://vimeo.com/ondemand/refinempmpexamprep**

RefineM Contact@RefineM.com www.RefineM.com

## Free PMP Live Video Chat




*Bring your questions about the PMP Exam.*

**More details at** https://refinem.com/free-pmp-live-chat-with-nk/



## Next Lunch and Learn

- ***Role of Wireframes in Agile Requirements***
  - ✓ What are wireframes?
  - ✓ Why is it important to use them on Agile projects?
  - ✓ How to use wireframes effectively?
- ***Wednesday, December 6, 12:00-1:00 PM Central***

**Register Today - Don't wait for the last Minute**

## How to Claim 1 PDU for this Webinar?

1. **Visit** ccrs.pmi.org and log in.
2. **Click** on "Report PDUs" link.
3. **Click** "Courses and Training" in upper left.
4. **Activity Name:** "Kanban Boards"
   *(complete this first, before you go to #5)*
5. **Provider:** "RefineM LLC" *(don't select dropdowns)*
6. **Date started:** November 1, 2017
7. **Date completed:** November 1, 2017
8. **Contact person:** NK Shrivastava
9. **Contact phone:** (417) 763-6762
10. **Contact email:** Trainings@RefineM.com
11. **PDUs:** 1.00 Technical.
12. **Click** on the "I agree this claim is accurate" box and then Submit.



## Rewarding Our Star Attendees

* **Anyone who attends 3 Lunch and Learn Webinars in a row is a Star Attendee and is eligible for a prize drawing for a $10 Amazon gift card.**

**There is no winner this month.**
**Stay tuned for our next drawing in December.**

# Questions?

RefineM PROJECT MANAGEMENT CONSULTING

**NK Shrivastava, MBA, PMP, RMP, ACP, CSP, SPC4**
**CEO/Consultant, RefineM**
Nixa, MO 65714, USA
nks@refinem.com, www.refinem.com
http://www.linkedin.com/in/nkshrivastava
justrightpm