

Limiting Work-in-Progress



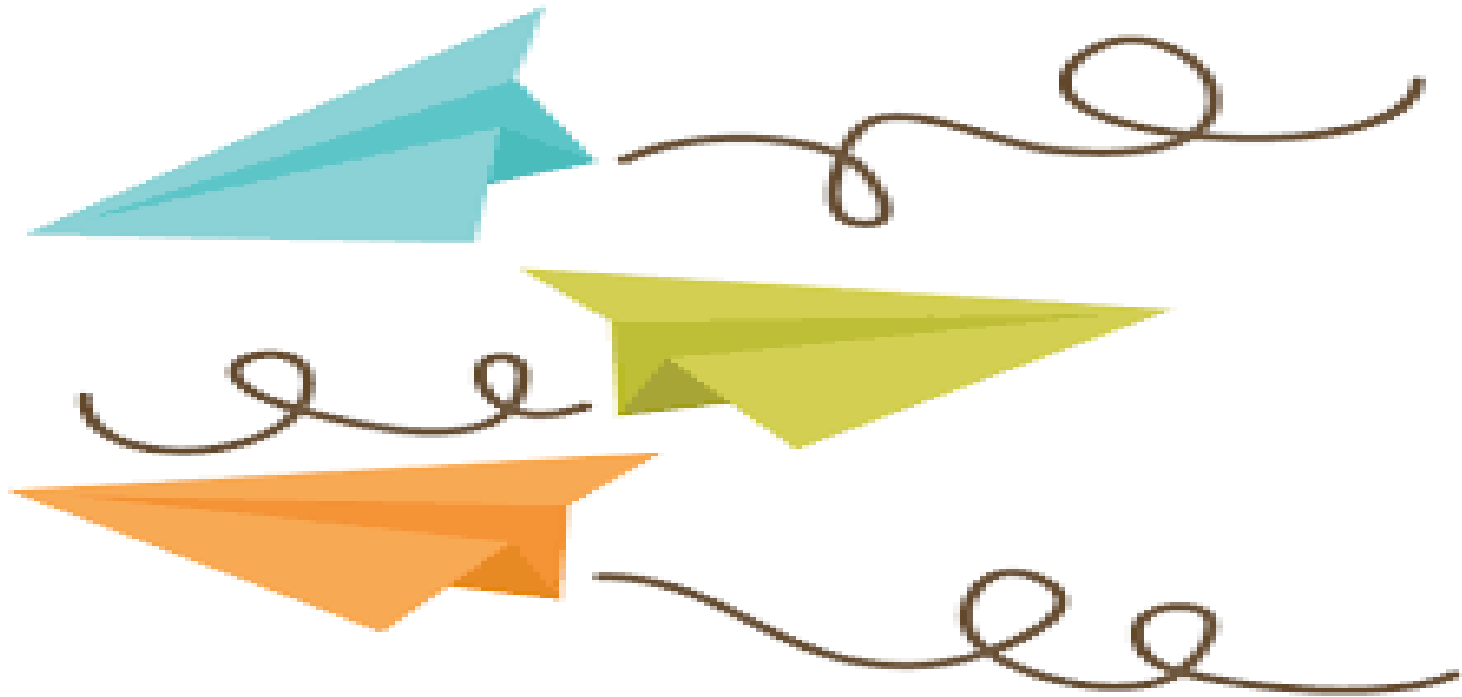
Agile Workshop

Tuesday, November 13, 2018

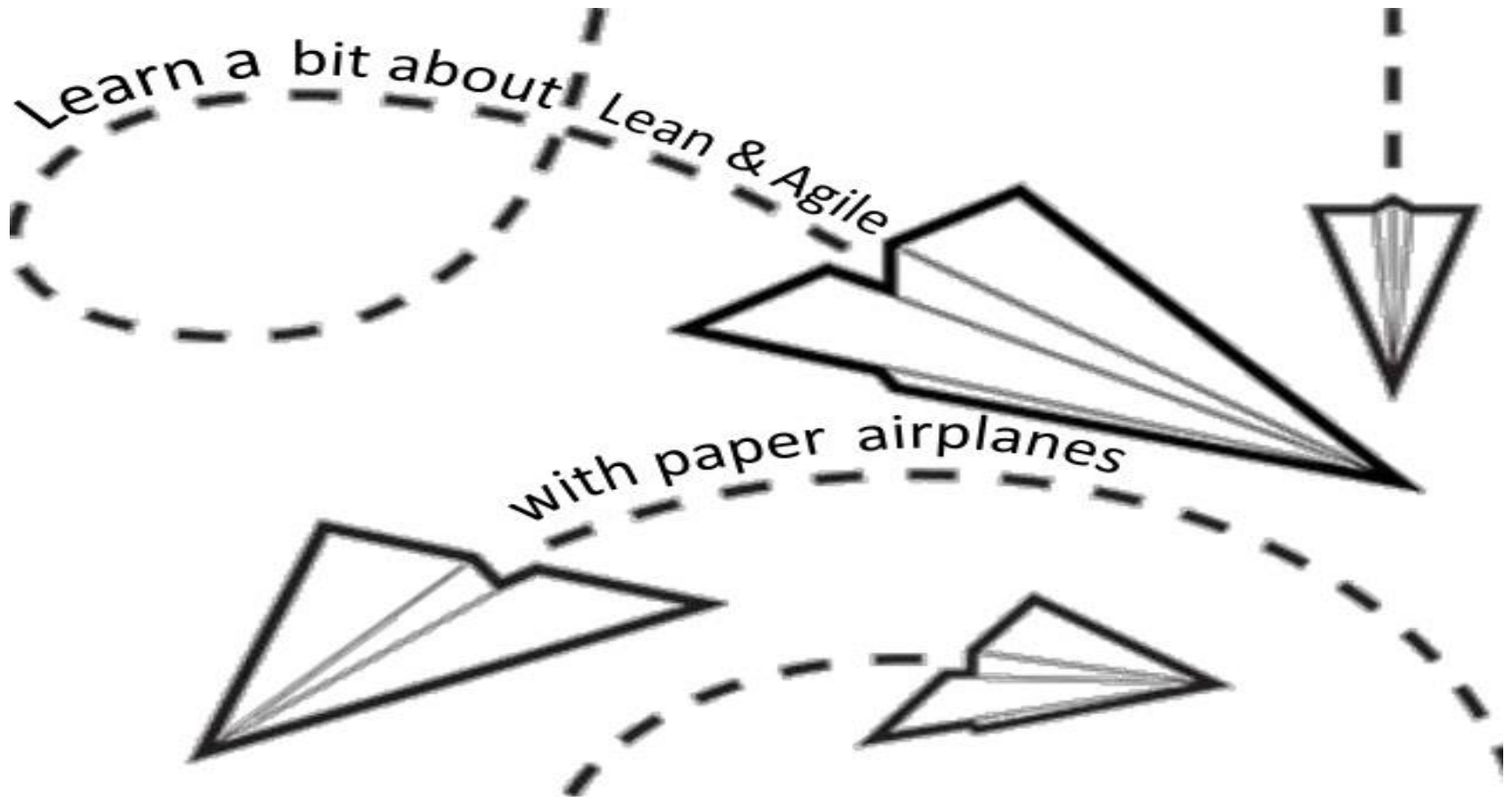
Overview

- ❑ Airplane Game Round 1
- ❑ WIP Overview
- ❑ Airplane Game Round 2
- ❑ Review/Questions

Airplane Game



Let's fold some airplanes!



Round 1 Discussion:

- ◆ Count how much work is left in progress (incomplete planes) – (Post-it notes for results grid)
- ◆ What was the total time was to finish all the planes? (Post-it)
- ◆ What was the cycle time for the colored plane? (Post-it)

Observations

- ◆ What issues did you encounter?
- ◆ What would you do differently next time?

Have trouble keeping up?



Kanban

- Japanese for “card you can see”
- Visual system for managing work as it moves through the process
- Identify potential bottlenecks in your process and fix them so work can flow through it cost-effectively at an optimal speed or throughput

What is Work-in-Progress (WIP)?

- One of the core principles of Kanban
- Used by individuals and teams to manage workflow in a way by limiting the total number of work items in progress at any given time
- Maximize value for the customer by eliminating waste

Examples of Waste

- ◆ Excessive Meetings
- ◆ Missed Deadlines
- ◆ Handoff Delays
- ◆ Communications Breakdown
- ◆ Duplicate Effort
- ◆ Rework to resolve defects
- ◆ Context switching

Why should we limit WIP?

1. Enable teams to manage capacity
2. Encourage teams to practice systems thinking
3. Help identify opportunities for process improvement
4. Introduce slack time to create space for anything else that is important, valuable and that can enable teams to be more effective at their jobs
5. Without WIP slack time doesn't exist

<https://leankit.com/learn/kanban/benefits-of-wip-limits/>

How is WIP Used?

If a project has a WIP limit of 5, this means up to 5 tasks/items can be in progress at a time without exceeding the limit

Round 2 Discussion:

- ◆ Count how much work is left in progress (incomplete planes) – (Post-it notes)
- ◆ What was the total time was to finish all the planes? (Post-it notes)
- ◆ What was the cycle time for the colored plane? (Post-it notes)
- ◆ Review results of both rounds and ask what did they notice?
- ◆ What was different from Round 1?

Final Recap/Discussion:

- ◆ How did you feel in each round?
- ◆ What did you notice about station 3?
- ◆ How did they feel in each round especially station 3?
- ◆ What the implications of this would be for their work?
- ◆ Which round most closely resembles current work environment?
- ◆ What is the importance of establishing WIP limits?
- ◆ Would you limit WIP in your current work environment? Why?

Takeaways

- ◆ Forces us to have the discipline to say “no” even when we’re used to saying “yes”
- ◆ Encourages us to abandon the chaotic, frantic way of working which we consider “productivity”
- ◆ Exposes our bad habits and hold everyone accountable for the work as a team
- ◆ Calendars may free up and give us more time to do work that has value
- ◆ More work gets done with less resistance and stress
- ◆ Regain focus, creativity and clarity and allow you to engage in your work in a more fulfilling way.

<https://leankit.com/learn/kanban/benefits-of-wip-limits/>

Summary:

- ◆ This exercise is usually used with teams who struggle to say no, do too many things at once and finish none of them
- ◆ Great game to help teams and managers realize that being busy doesn't help the bottom line.

Appendix: Airplane Game

Teams of 6 will time and fold 30 paper airplanes

- ◆ 5 minutes to complete airplanes
- ◆ 6th airplane is a different color
- ◆ As each step is completed, pass plane to next station and repeat until all 30 airplanes are finished

Record time(s) on Worksheet and Post-its:

- ◆ Start and End time
- ◆ Total Time
- ◆ Length of time it takes to complete 6th airplane
- ◆ # Incomplete Plane(s)

Game Rules

Each team will have 6 participants:

- ◆ 4 folders, 2 time keepers
- ◆ Choose 1 team member for each folding station
- ◆ Choose 2 time keepers
 - ◆ 1st Timekeeper will record the time from 1st plane to last plane
 - ◆ 2nd Timekeeper will record how long it takes to fold color airplane

Acceptance Criteria:

- ◆ Completed planes must fly across the table

Folding Airplanes

Form an assembly line:

Station 1: Fold paper in half lengthwise

Station 2: Unfold paper and fold both of the corners into the crease to form the nose of airplane

Station 3: Fold down both creases into the center then fold in half and draw a star at the back of the plane on both sides

Station 4: Fold back edges as wings and test to see if the planes fly across the table

Round 2:

- ◆ Discard planes from round 1
- ◆ Same rules as round 1 but limiting work-in-progress
- ◆ Limit of 1 plane per station at one time
- ◆ Each station waits until the previous step is passed to them
- ◆ No backups between stations

Review Results

TEAMS	Round 1			Round 2		
#	WIP/Inc (At End)	Total Time (Start-Finish)	Cycle Time (Plane #6)	WIP/Inc (At End)	Total Time (Start-Finish)	CycleTime (Plane #6)
1						
2						
3						
4						
5						
6						