DIGITAL ENGINEERING

LEAN IN SOFTWARE DEVELOPMENT

ITSMF breakfast seminar May 2019 Rauno Kosamo

SETUP AND DISCLAIMER

Product program had four locations (US, Finland, Poland and India) having close to 300 people.

I led and coached the teams in Finland and as I was a member of the R&D management I knew the situation also in a product level.

And as I had a long experience in agile and lean transformation I was a natural member in product transformation team.

These thoughts are from me and me only.

CUSTOMER CHALLENGES



Telecom operators wants commitments for next one or two years





Some operators wants release bi-weekly, some only once per year and the rest between





INTERNAL CHALLENGES

Functional silos caused problems like sub-optimized flows, prioritization problems and lack of system competence

Heavy and complex steering structure caused slow decision making and poor visibility

Focus on 100% allocation caused that any sudden delay in team level caused delays in program level and for keeping the schedule the quality was compromised





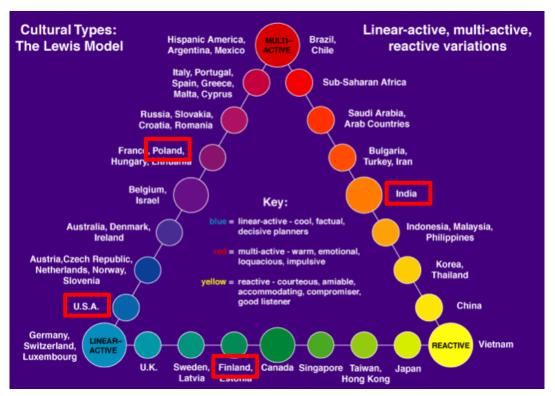


CULTURAL CHALLENGES

Conflict areas:

Commitments: Yes, yes vs. No, no Requests: Managers / Religion vs. Experts Decision making: Manager vs. Experts

LINEAR-ACTIVE	MULTI-ACTIVE	REACTIVE		
Talks half the time	Talks most of the time	Listens most of the time		
Does one thing at a time	Does several things at once	Reacts to partner's action		
Plans ahead step by step	Plans grand outline only	Looks at general principles		
Polite but direct	Emotional	Polite, indirect		
Partly conceals feelings	Displays feelings	Conceals feelings		
Confronts with logic	Confronts emotionally	Never confronts		
Dislikes losing face	Has good excuses	Must not lose face		
Rarely interrupts	Often interrupts	Doesn't interrupt		
Job-oriented	People-oriented	Very people-oriented		
Sticks to facts	Feelings before facts	Statements are promises		
Truth before diplomacy	Flexible truth	Diplomacy over truth		
Sometimes impatient	Impatient	Patient		
Limited body language	Unlimited body language	Subtle body language		
Respects officialdom	Seeks out key person	Uses connections		
Separates the social and professional	Mixes the social and professional	Connects the social and professional		





WHY WE FAILED TO IMPROVE THE SITUATION

We got a lot of improvement items from retrospectives and other similar sessions

Due the lack of e-2-e priorities we had no common focus



improvements 1 2 1 1 2 3 4 2 4 4 4

Improvements prioritization was based on the hunch and each silo had own priorities



NITOR DIGITAL ENGINEERING

SO, WHAT WE DID?

7

16.5.2019 CONFIDENTIAL

WE BUILT PRODUCT LEVEL E-2-E KANBAN BOARD

							Work in Progres	8				
Planned - 28 (limit 10	0	WIP-5	In Progress	s - 6 (limit 5)	Coded - 3 (limit 3	39	Testing - 1	Func. Test	ts - 0 (limit 2)	Ready To Merge - 1 (limit 3)	Merged - 7 (limit	7)
25995 'Default' filter concept should be removed from TP	-	25562 (PERF - TECH) SQL queries count in dely builds	24582 [MPS large] Cross- prioritization	project	26751 Ø 2 [MPS] Relenses list		2010 Plugin			26300 E 3 MPS - medium) Task Board	26373 E 3 Release Burndown Chart: add simple	
NETIET (MPS) Requests list		26762 Ø1 (MPS) terationa lat	26439 Tags : Case not sho User Story Is	wn in	28783 (MPS) Time Ist						26202 In all Views there should be visible count of entities in tabs	
to [MP5] Duilds		26915 [MPS] Filler: Release disrution option should be renamed to Release	26619 Obser should be ab see attaching	le to ento	25347 [MPS - all lists] Access denied to view entity if use different process.						26756 Guick Add Test Case window is not closed.	
16769 [MPS] Cueue Ist		269-00 Upgrade to CHEditor 3.2.1	26785 Messe about license expiration is r shown in atta	nat							26632 [Ouston Reports] Filter by Tag using 'contains' condition doesn't	
25354 Problem: Customers forgat ogin and password		22010 (npx) Assign Team Members functionality is broken.	26855 MPS: I Actions Pane								25345 Request type column is missing in Requesters - Requests inner list	
14725 (large) Login page redecign			26972 CSV (cepability doe work								26953 JS exception when adding UserStory	
25623 Tools section with links to edd-ins	•										25565 Fitters on Dashboard: need to scroll page back to	
					Done, Cio	osed - 1	0 (10 latest)					
shorts: include Fi sempleted stories de	807-	Contains 26764 in reports Gosco- nit-work privit-tags		n o list	26766 (MPG) Test Plan Runo list	pro refe	ecto are	1992 detaut setonization are nety	on Took Boon		20132 (MPS) Guide Add monu doconit support-torma-	l

And when we understood the big picture we started to see the forest from the trees and the problems in it



EXAMPLES OF E-2-E FINDINGS



We had content for 3 years in our backlog



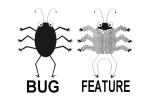
Bottlenecks in product flow

Too many features under work at the same time

A lot of waste done in different places



Quality problems

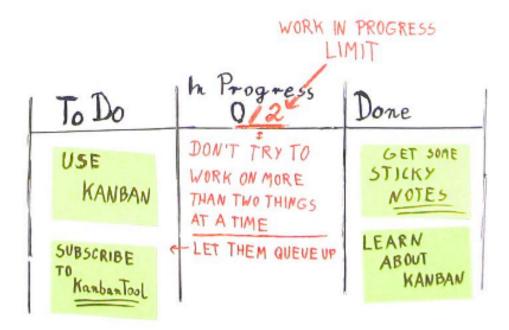




www.shutterstock.com · 6634887



WE LIMIT WORK-IN-PROGRESS



By limiting how much unfinished work-in-process, you can reduce the time it takes an item to travel through the Kanban system.

CONFIDENTIAL



WE STARTED TO MEASURE OUR E-2-E FLOW

WIP and Queues

Cumulative Flow Diagram 10 0 May Jun Tid. March Apr 🛢 Backlog 🜑 Approved 🥮 Buffer 🛑 In Progress 🔵 Final Review 🔳 Done



Oct

Nov

@ kanbantool.com

Dec





Aua

Sep

WE MADE POLICIES EXPLICIT

We agree on policies and make them visible.

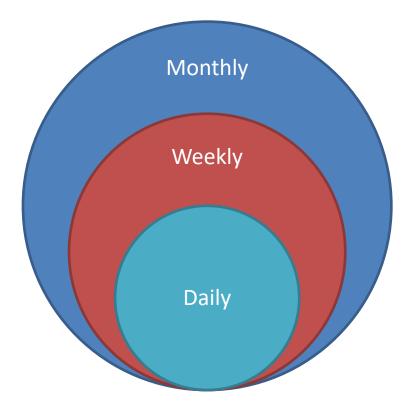
- Phases in Kanban
- Templates and practices

Examples:

- Only one Feature at time for each Feature Team
- Definition of Ready and Definition of Done for each phases
- E.g. pull request, review and commit practices agreed among teams



WE IMPLEMENT FEEDBACK LOOPS



Daily

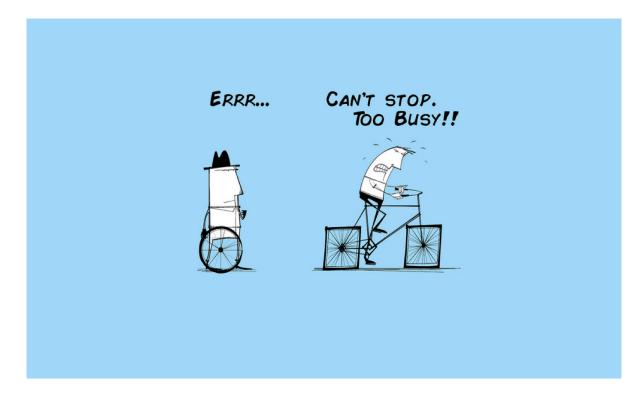
- Team level stand ups
- Continuous Integration, Test Automation, Continuous Deployment

Weekly

- Team level demos
- Improvement follow ups
- Metrics
- Team level retrospectives (User Story level) Monthly
- Product level Demos
- Feature level retrospective summaries
- Improvement backlog prioritization



WE STARTED CONTINUOUS E-2-E IMPROVEMENT





16.5.2019

DIGITAL ENGINEERING

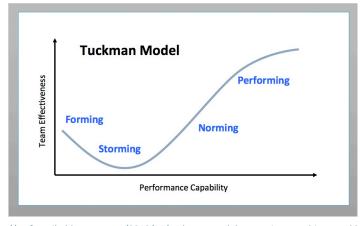
HIGH PERFORMING TEAMS AND HOW TO WORK IN LEAN

BUILDING A HIGH PERFORMING TEAM

Understand the cultures!

If your team members are from different countries like Russia, Estonia, Indonesia, Belarus, Gambia and Finland you really need to understand different cultures as well





http://cmforagile.blogspot.com/2018/11/tuckman-model-strategies-to-achieve-and.html

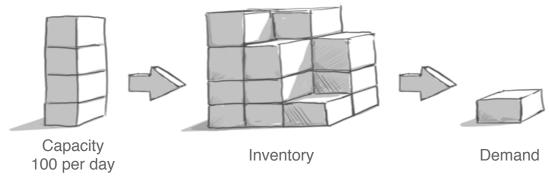
Learn and know how to build team! When ever you change the team by e.g. adding team members, team goes always back to Forming state!

To build high performing team needs time!



PULL VS. PUSH SYSTEMS

Mass manufacturing: push (produce per target)



Lean manufacturing: pull (produce only per need)



Pull is possible when cycle-times are already fast!



DIGITAL ENGINEERING

THANKS! QUESTIONS?

Discussion topics if we have time: Continuous Integration, Test Automation and Continuous Delivery Tools like Jira and Confluence Challenges in change

18

16.5.2019

CONFIDENTIAL