

看板

DISCOVERING
KANBAN

ITPalooza 2014

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A South Florida software development professional with 20 plus years of experience in the design, construction and deployment of software. The bulk of my experience is as a software developer. Unit test infected since 1999. I have been working as a Software Development Manager and Development Director for the last 6 years. Focusing on agile software development methods since 2013.

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INTRODUCTION (SOMETHING NEW)

You have heard that agile software development is the way to go. You probably have heard of Scrum and XP, but there is a relatively newer form of agile development called “Kanban” that has been gaining market share in the last few years.

INTRODUCTION (WHY USE IT?)

Kanban's recent popularity stems from its ease of implementation, use of visual cues, ability to handle a wide variety of software development and operations teams. Some groups have turned to Kanban when popular methods did not generate the desired results.

INTRODUCTION (QUESTIONS)

- So, what exactly is Kanban?
- How is it related to other agile methods?
- When would you use Kanban versus other methods?
- Is Kanban is right for my group?
- How do I get started?

WHAT AGILE METHOD TO USE?

- Backstory
- September 2013
- We are going Agile with a Scrum team
- What about the other teams with just one or two developers?
- The journey to find the appropriate Agile method

THE JOURNEY, DON'T STOP BELIEVIN'

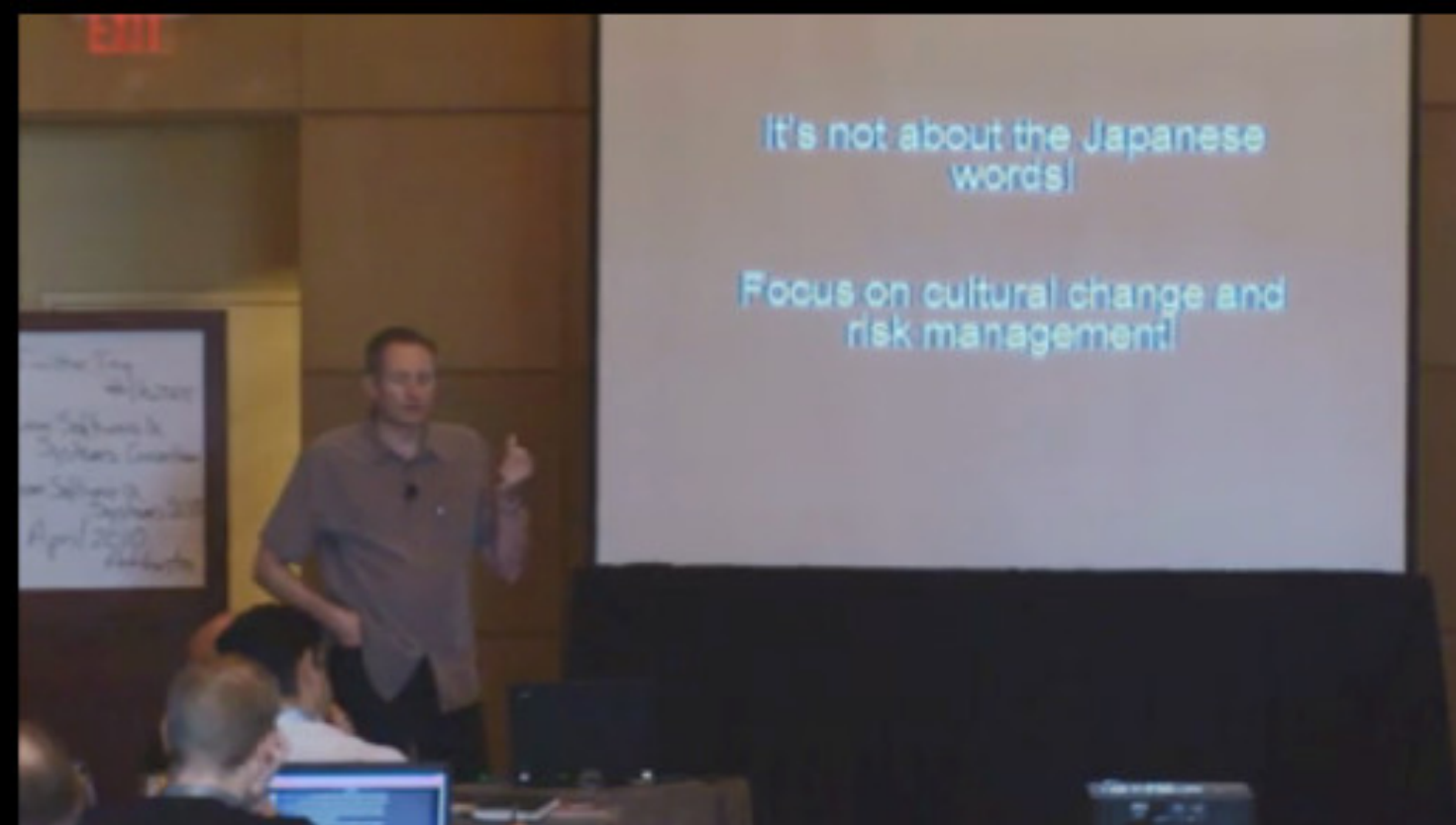
Training Classes

- Certified ScrumMaster, Oct 2013
- Certified Product Owner, Mar 2014
- Scrumban Workshop, July 2014
- Scaled Agile, Nov 2014

Audiobooks



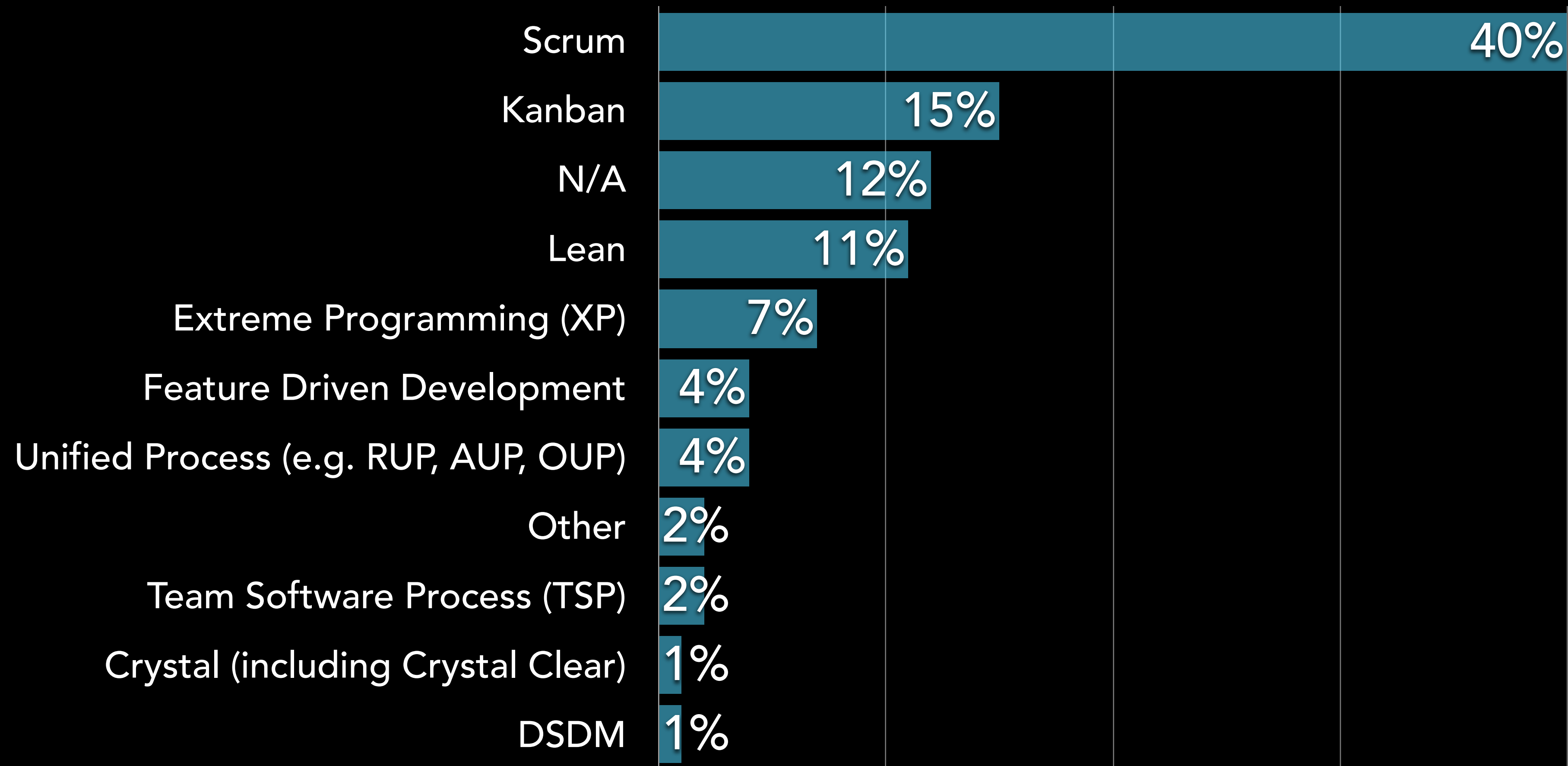
Videos



Books

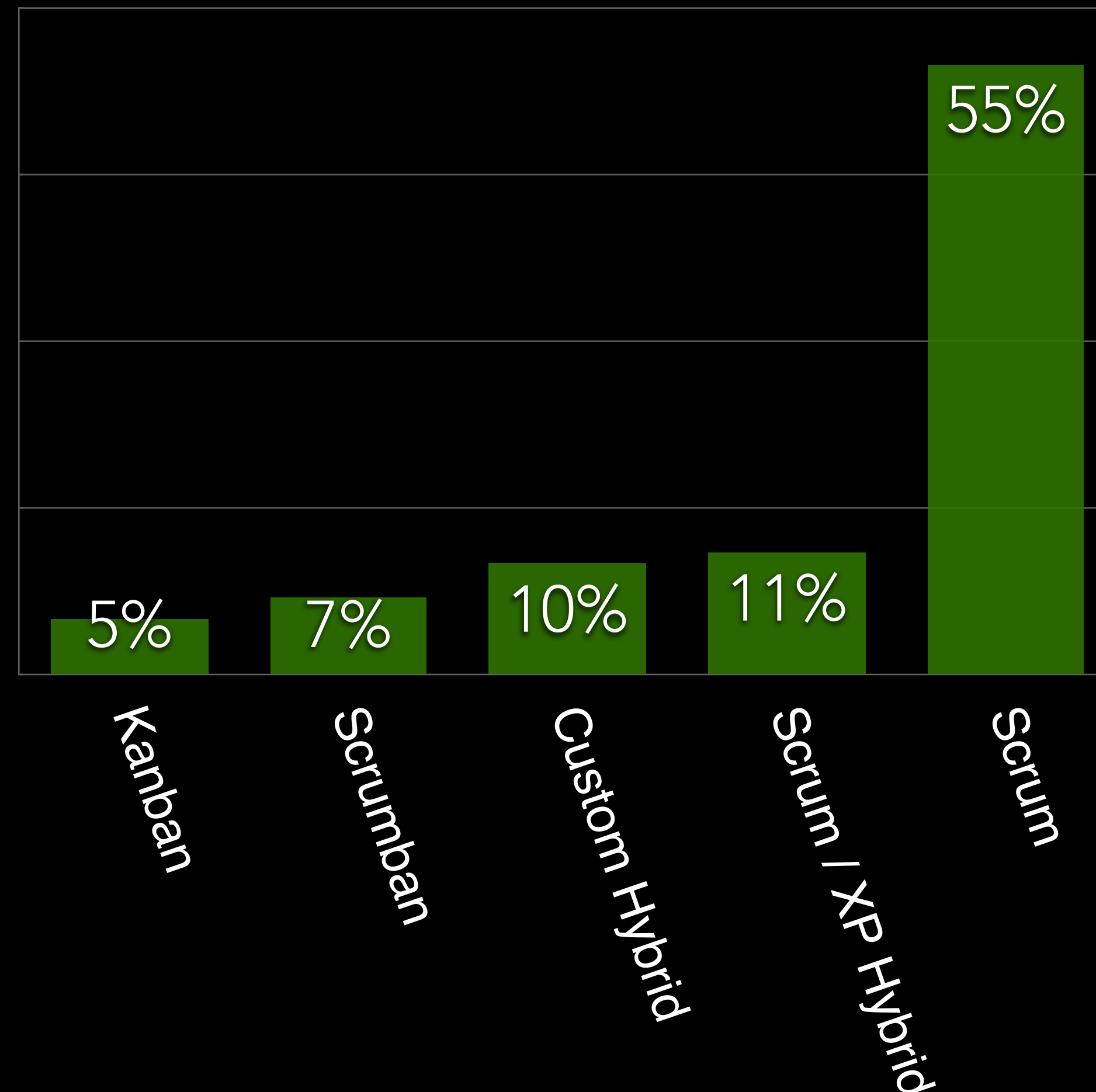


WHAT AGILE APPROACH IS YOUR ORGANIZATION USING (SELECT ALL THAT APPLY)?



".. KANBAN CONTINUES TO GAIN POPULARITY AMONG TEAMS (7% INCREASE)."

".. Scrum and Scrum variants (73%) remain the most popular agile methodologies being used."

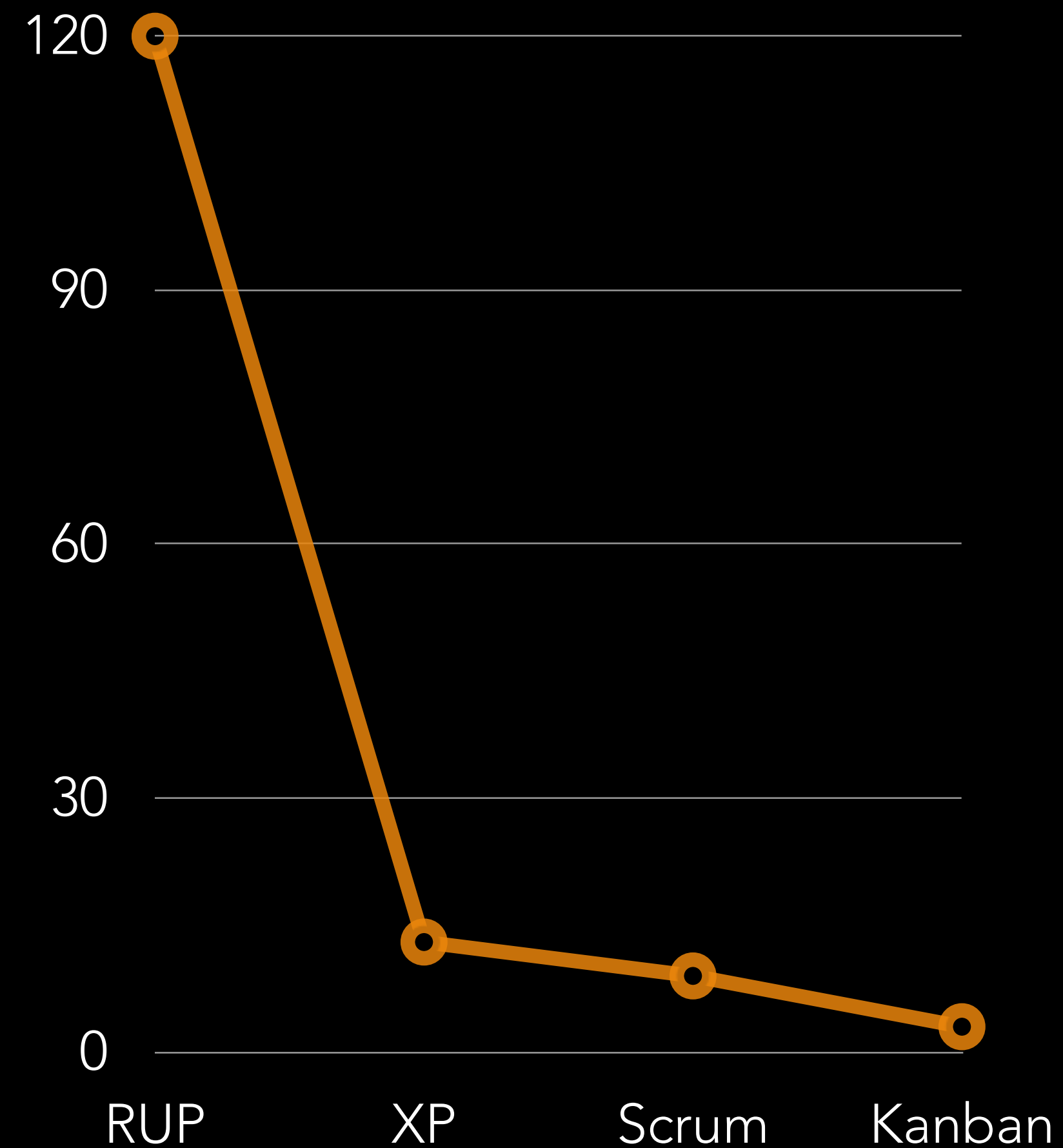


FRAMEWORK VERSUS METHODOLOGY

- A framework is an incomplete set of practices needed for software construction. Gaps are filled with additional methods and/or tools to make a working methodology.
- A methodology includes a full set of practices and tools needed for software construction. It is common to omit parts of a full methodology that are not appropriate for a given environment.

AGILE METHODS ARE BECOMING MORE ADAPTIVE AND LESS PRESCRIPTIVE

- Counting method roles, activities and artifacts



SCRUM

- An agile software development framework
- Scrum name originates from Rugby term “scrummage”
- Inspired by “The New New Product Development Game”, Takeuchi and Nonaka, 1986 Harvard Business Review



SCRUM INSPIRATION

“The New New Product Development Game”, Takeuchi and Nonaka, 1986 Harvard Business Review



FX-3500 Fuji-Xerox 1978



PC-10 Canon 1982



PC 8000 NEC 1979



AE-1 Canon 1976



City car Honda 1981



Auto Boy Canon 1979

TO SCRUMBUT OR NOT TO SCRUMBUT?

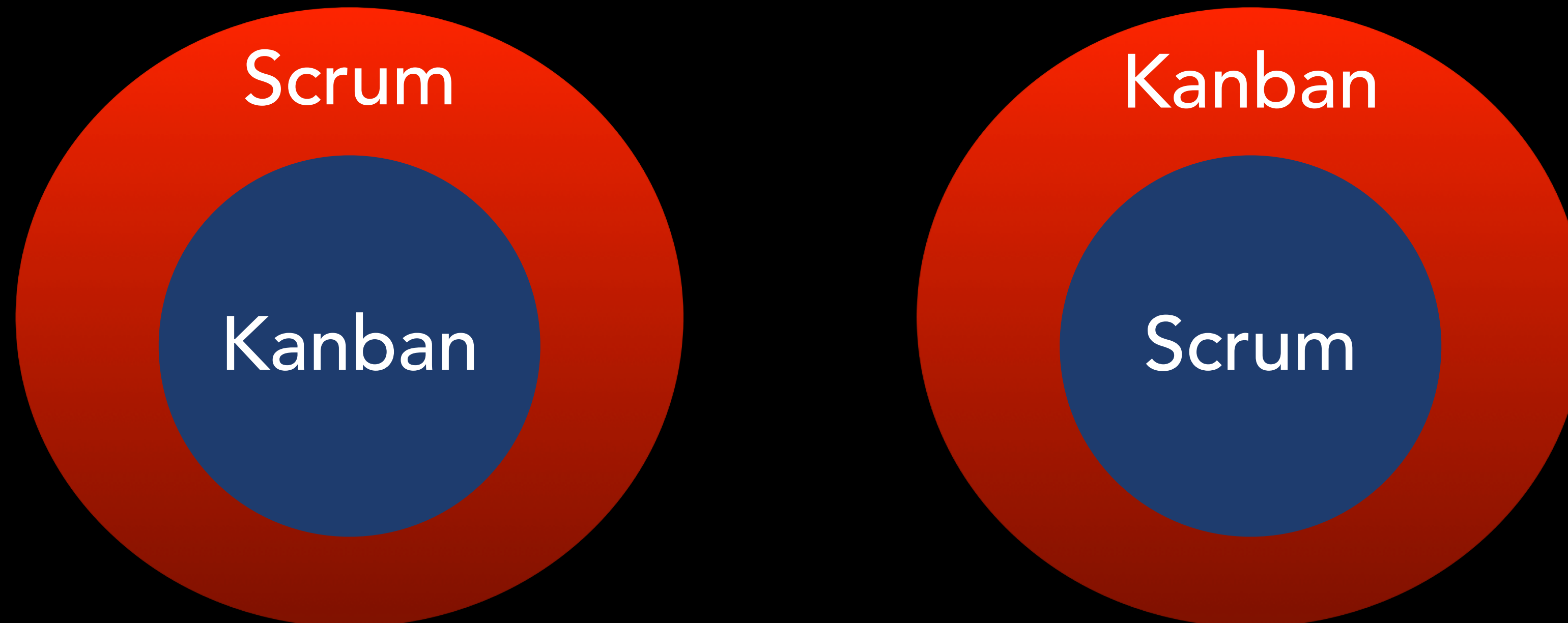
- That is the question
- Scrum requirements
 - Team size 5 to 9
 - Cross-functional team
 - Specified roles: Scrum Master, Product Owner, Team
 - Sprint without interruptions (Timeboxed 2-4 weeks)



SCRUMBAN

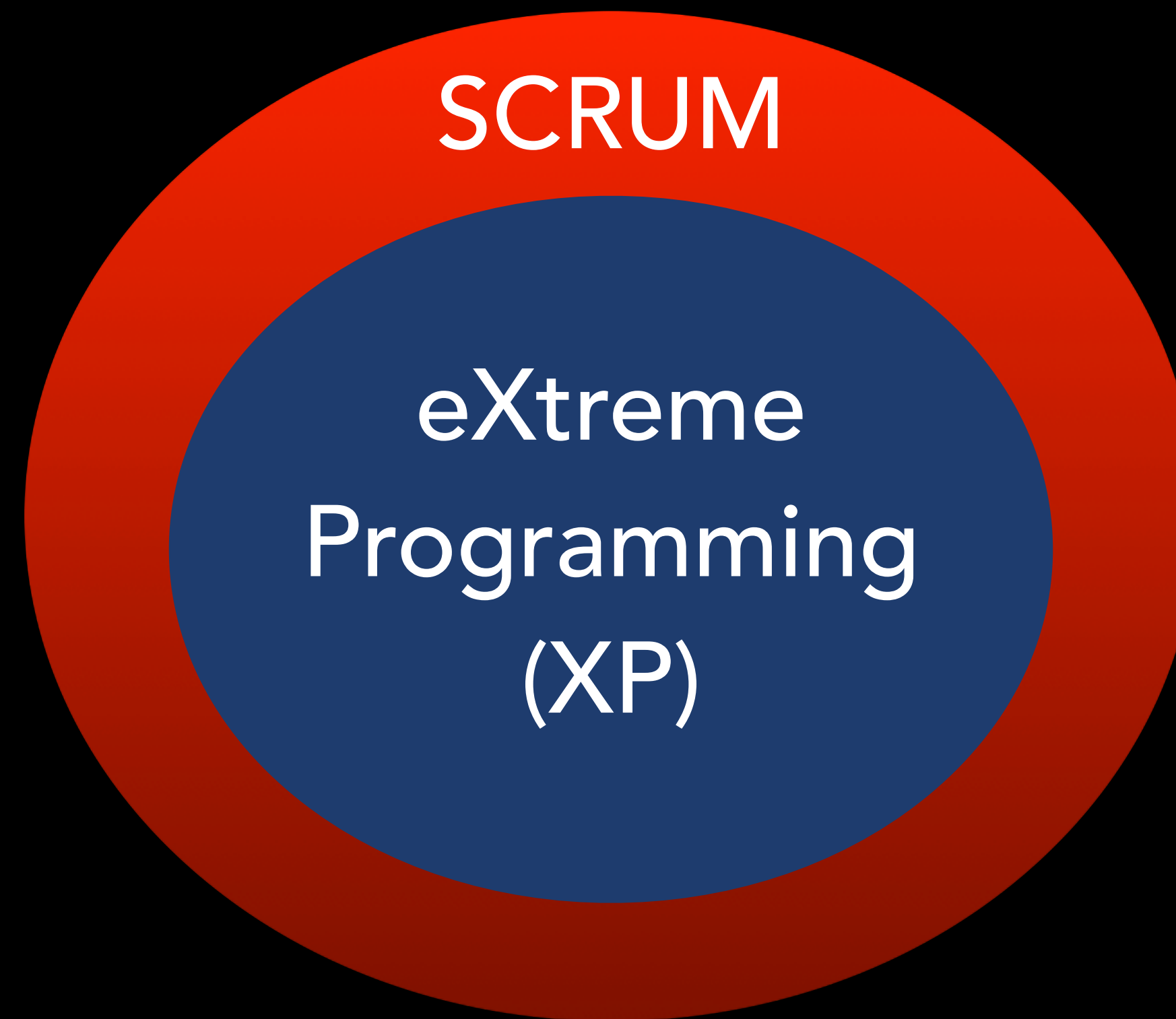
- Combination of Scrum and Kanban
- Coined and described by Corey Ladas

Evolving of Scrum to Kanban



SCRUM / XP HYBRID

Combination of Scrum Framework with XP practices



SCRUM AND EXTREME PROGRAMMING

SCRUM	XP
SPRINT	ITERATION
SPRINT PLANNING	PLANNING GAME
PRODUCT OWNER	CUSTOMER
RETROSPECTIVE	REFLECTION
SCRUM MASTER	PROJECT MANAGER
DAILY SCRUM	DAILY STANDUP



THE KANBAN METHOD

- An Agile software development method
- Kanban originates from Japanese [看板] where kan means "visual" and ban means "card" or "board"
- Influenced by Lean Manufacturing, the Toyota Production System (TPS) and Eliyahu Goldratt's Theory of Constraints (TOC)
- Developed by David J. Anderson

WHY KANBAN?

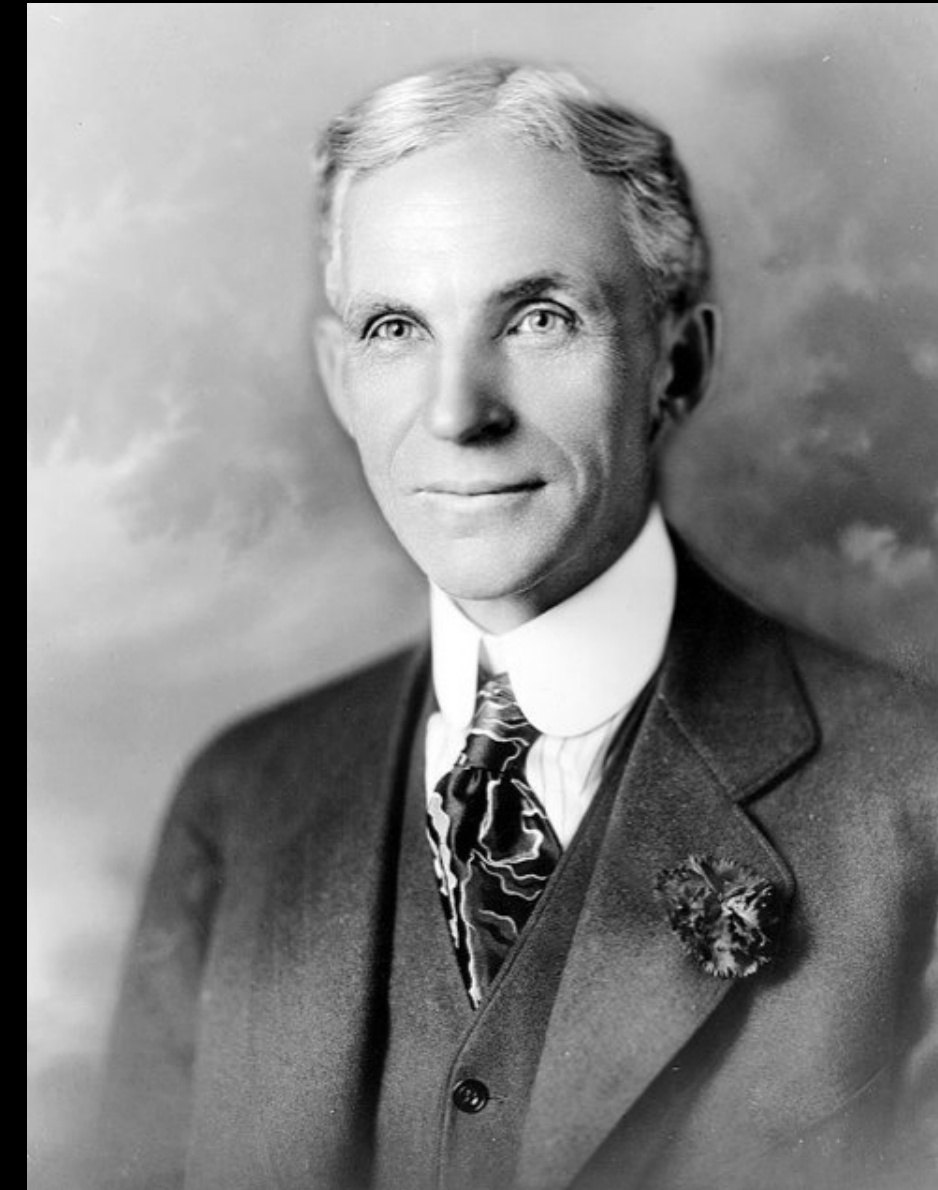
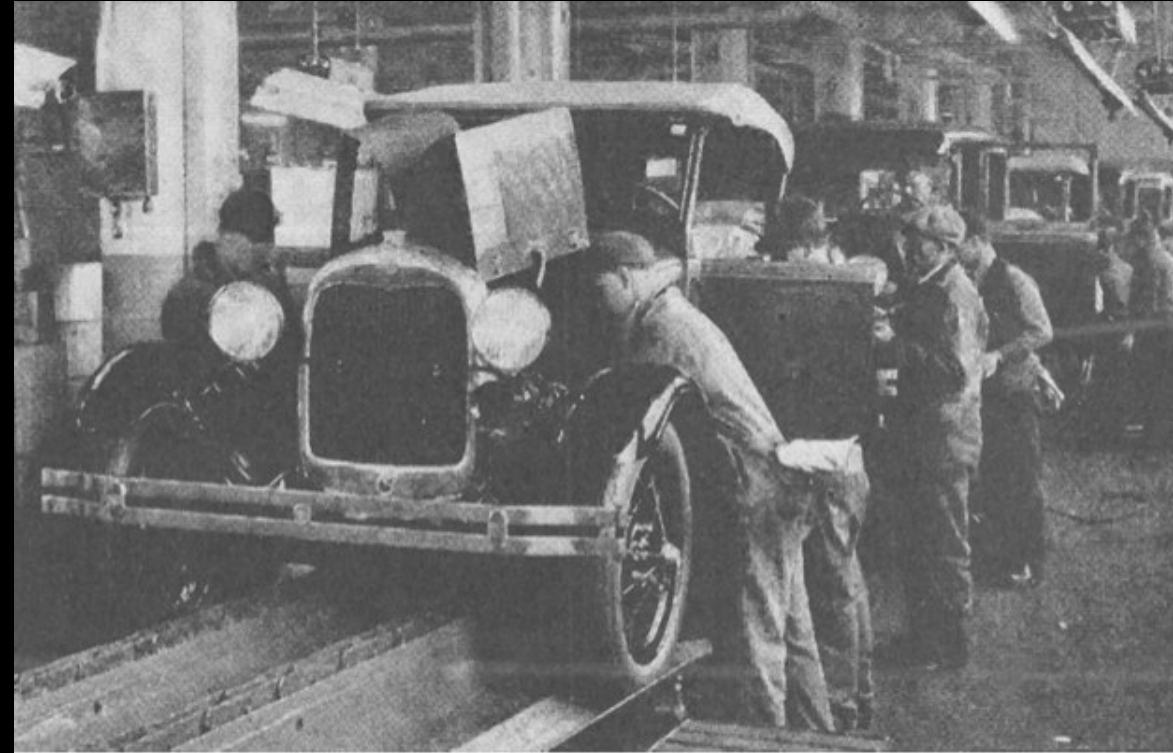
- Ease of implementation
- Accelerate time to market
- More easily manage changing priorities
- Better align IT and business objectives
- Increase productivity
- Enhance software quality
- Project visibility

FIRST A LITTLE BACKGROUND

- Let's step back and discuss a few terms
 - Flow
 - Push
 - Pull
 - TPS
 - Lean

WHAT IS FLOW?

- Henry Ford pioneered the assembly line aka "*flow lines*"

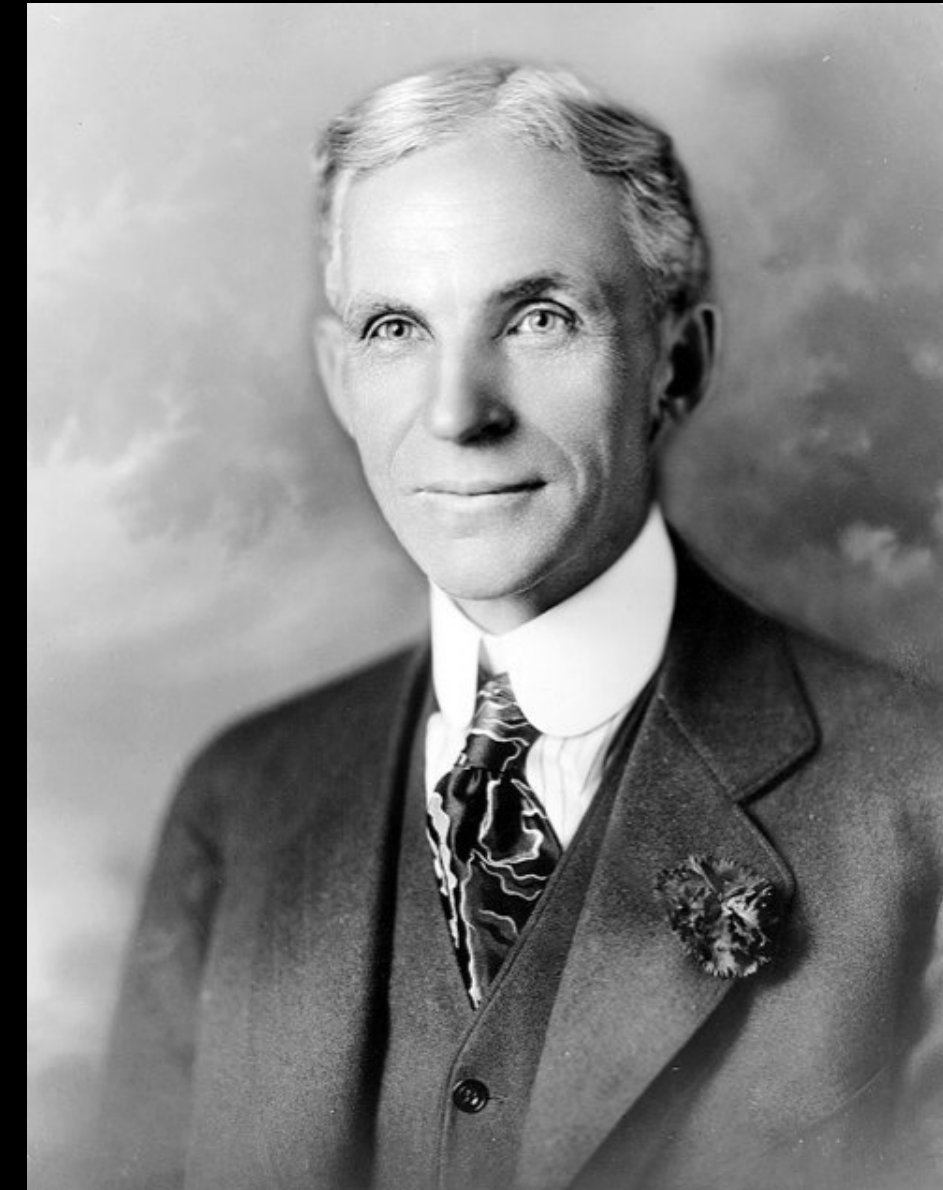


WHAT IS A PUSH?

- “Any customer can have a car painted any colour that he wants so long as it is black” *Henry Ford*



Ford Model T



WHAT IS PULL?

- Grocery store refills items based on customer “pulling” inventory



WHAT IS TPS?

- Toyota Production System incorporates the *flow* of Ford and *pull* of grocery stores.



Taiichi Ohno



Kiichiro Toyoda

KANBAN AND TPS

Time of Delivery 10:30	Storage Area A 1-1	Toyota Motors Headquarters
Ohashi Iron Works Store Shelf no. 1 - BOTTOM	Item No. 53018-60011	Identification
	Item Name R&D S/ANY RADIATOR PRESS LH	Used in FJ Car Type (J)
	21	Box Type SPECIAL Box Capacity 30
Parts-ordering Kanban		Assembly No. 2 50

kanban card, circa 1978

TSS -18-1 C	高岡工 04
48110-12000-01	
324	
OH1-17-1	02
2002	

e-kanban card, Today

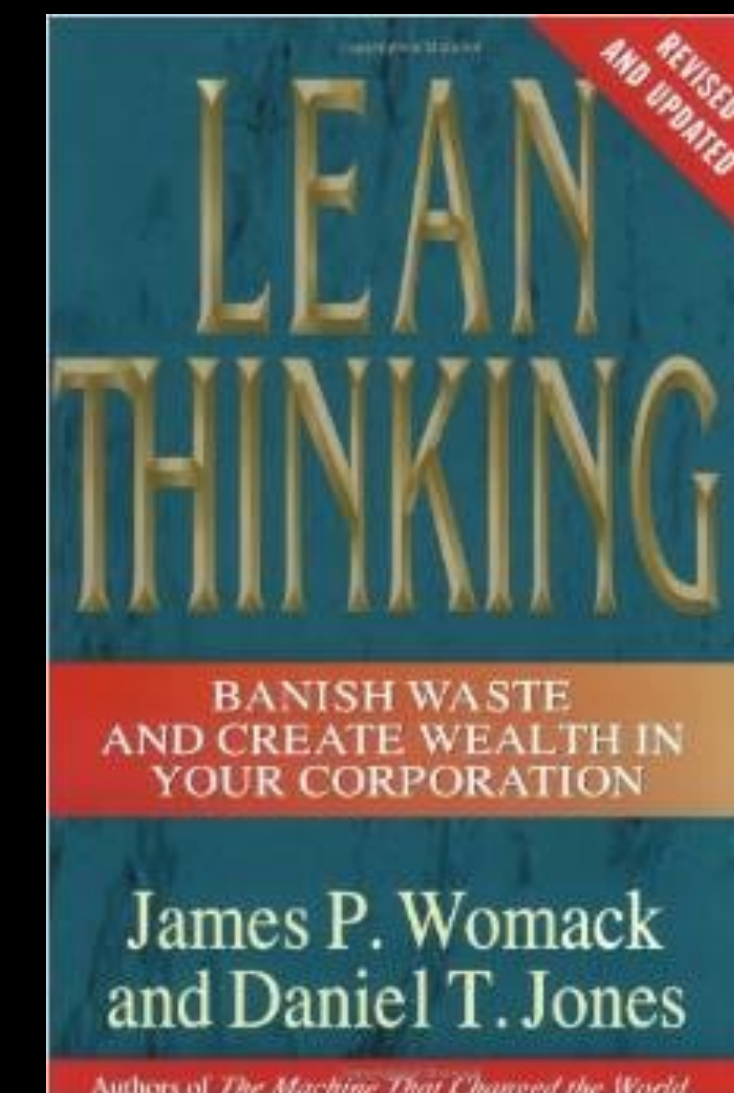
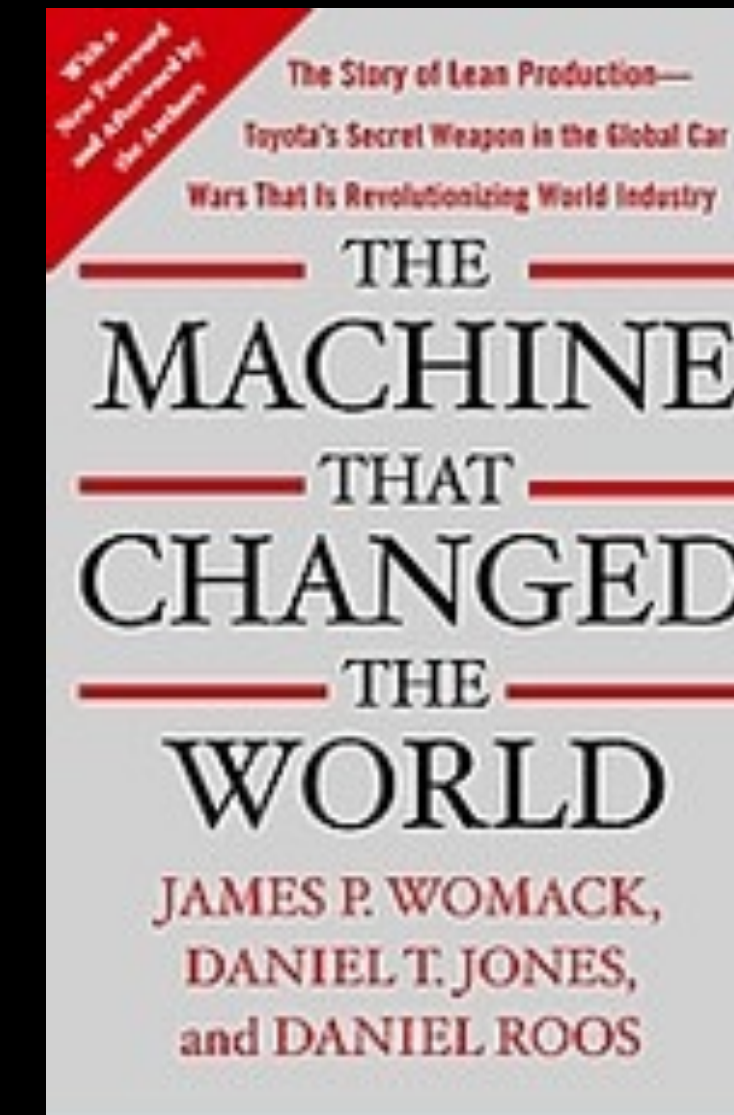
What is kanban?

"The operating method of the Toyota production system is *kanban*. Its most frequently used form is a piece of paper contained in a rectangular vinyl envelope."

Taiichi Ohno (1978). *Toyota production System*

WHAT IS LEAN?

- Womack, Jones and Roos provide a comprehensive description of the entire [Toyota] lean system... Indeed, they argued that it would triumph not just in manufacturing but in every value-creating activity from health care to retail distribution.
- The Kanban Method includes many Lean principles and practices



FINISHING WITH BACKGROUND

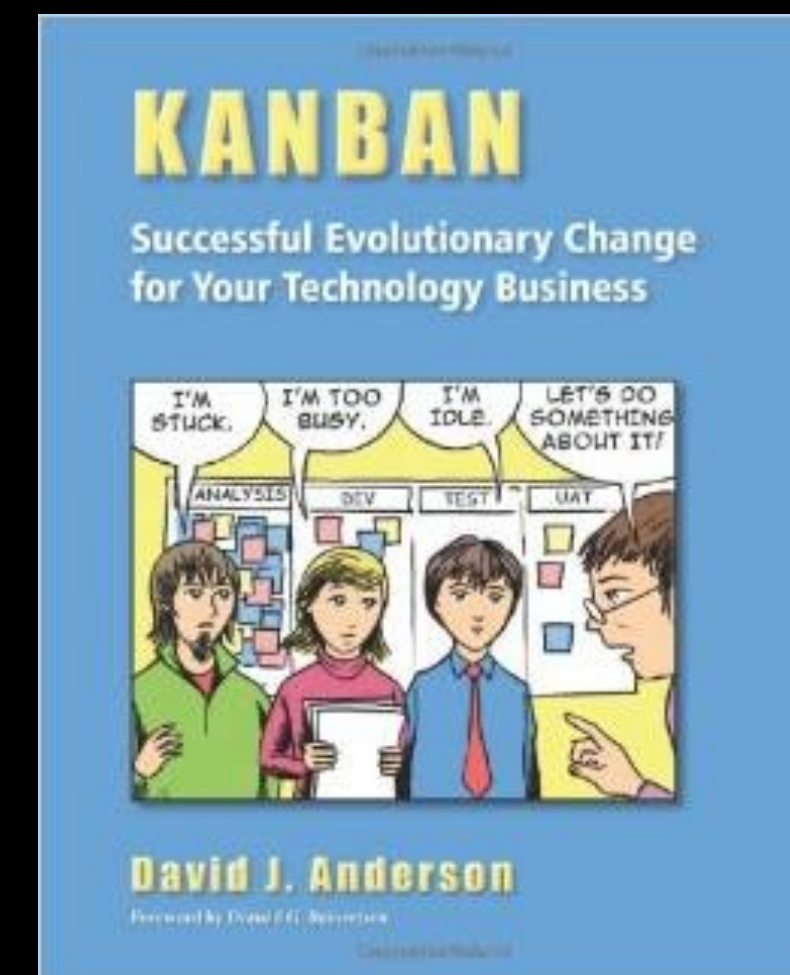
- Quick review of discussed terms
 - Flow
 - Push
 - Pull
 - TPS
 - Lean

WHAT IS THE KANBAN METHOD?

“... I describe Kanban (capital K) as the evolutionary change method that utilizes a kanban (small k) pull system, visualization, and other tools to catalyze the introduction of Lean ideas into technology development and IT operations.”

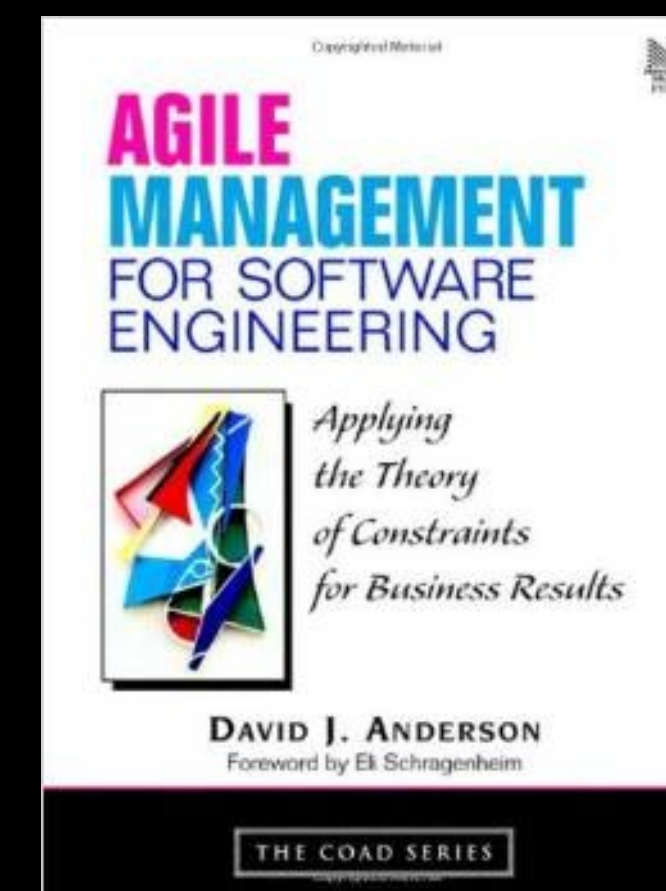
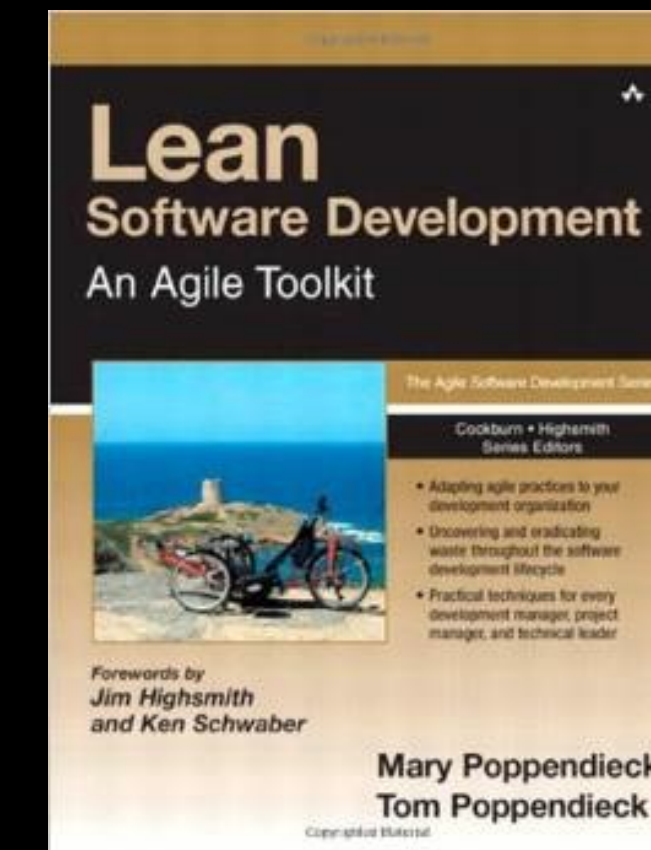
David J. Anderson (2010).

Kanban
Successful Evolutionary Change
for Your Technology Business



THE ROAD TO KANBAN

- The Kanban Method is not a immediate descendant from TPS and Lean.
- Mary and Tom Poppendieck's (2003). *Lean Software Development*
- David J. Anderson's (2003). *Agile Management Applying the Theory of Constraints*
- This explains among other things the lack of Japanese terms in the Kanban Method





THE KANBAN METHOD

- Four guiding Principles
- Six core Practices

KANBAN METHOD PRINCIPLES

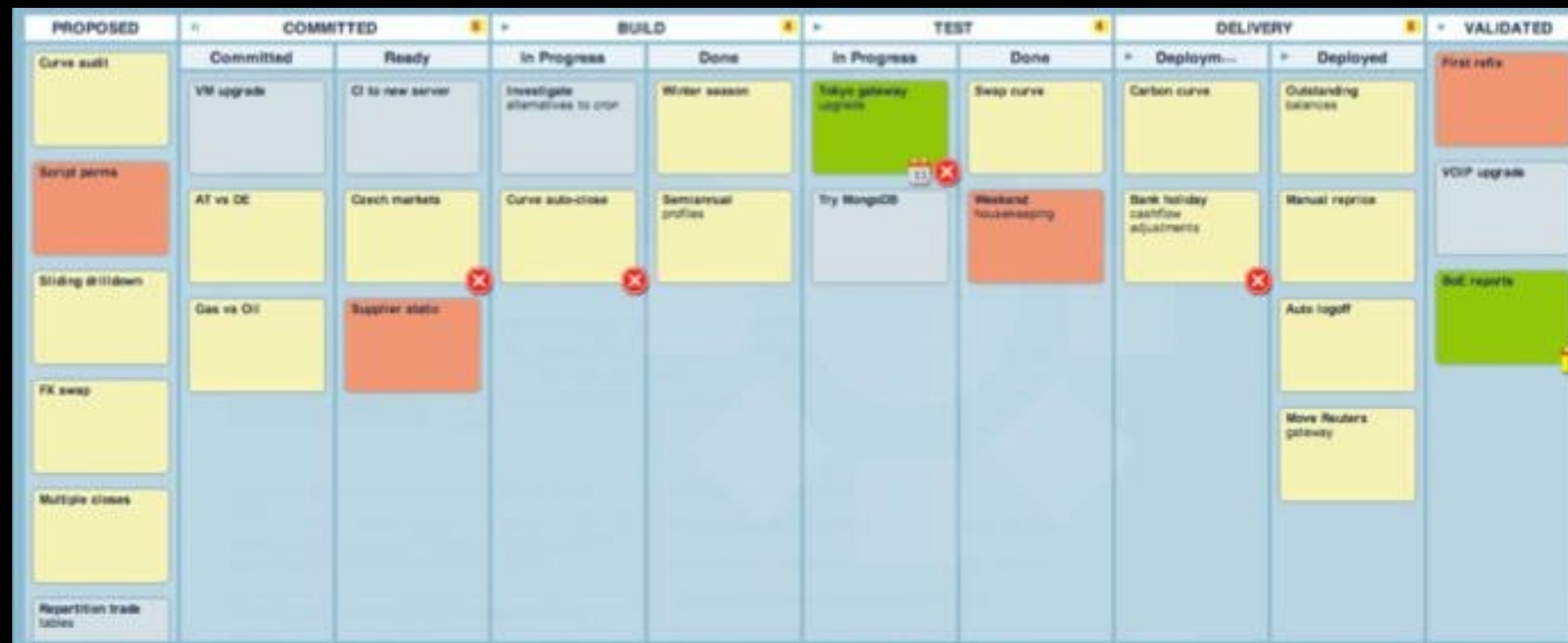
- Start with what you know
- Agree to pursue evolutionary change
- Initially, respect roles, responsibilities and job titles
- Encourage acts of leadership at all levels

KANBAN METHOD PRACTICES

- Visualize
- Limit work-in-progress (WIP)
- Manage flow
- Make policies explicit
- Implement feedback loops
- Improve collaboratively, evolve experimentally (using models and the scientific method)

VISUALIZE

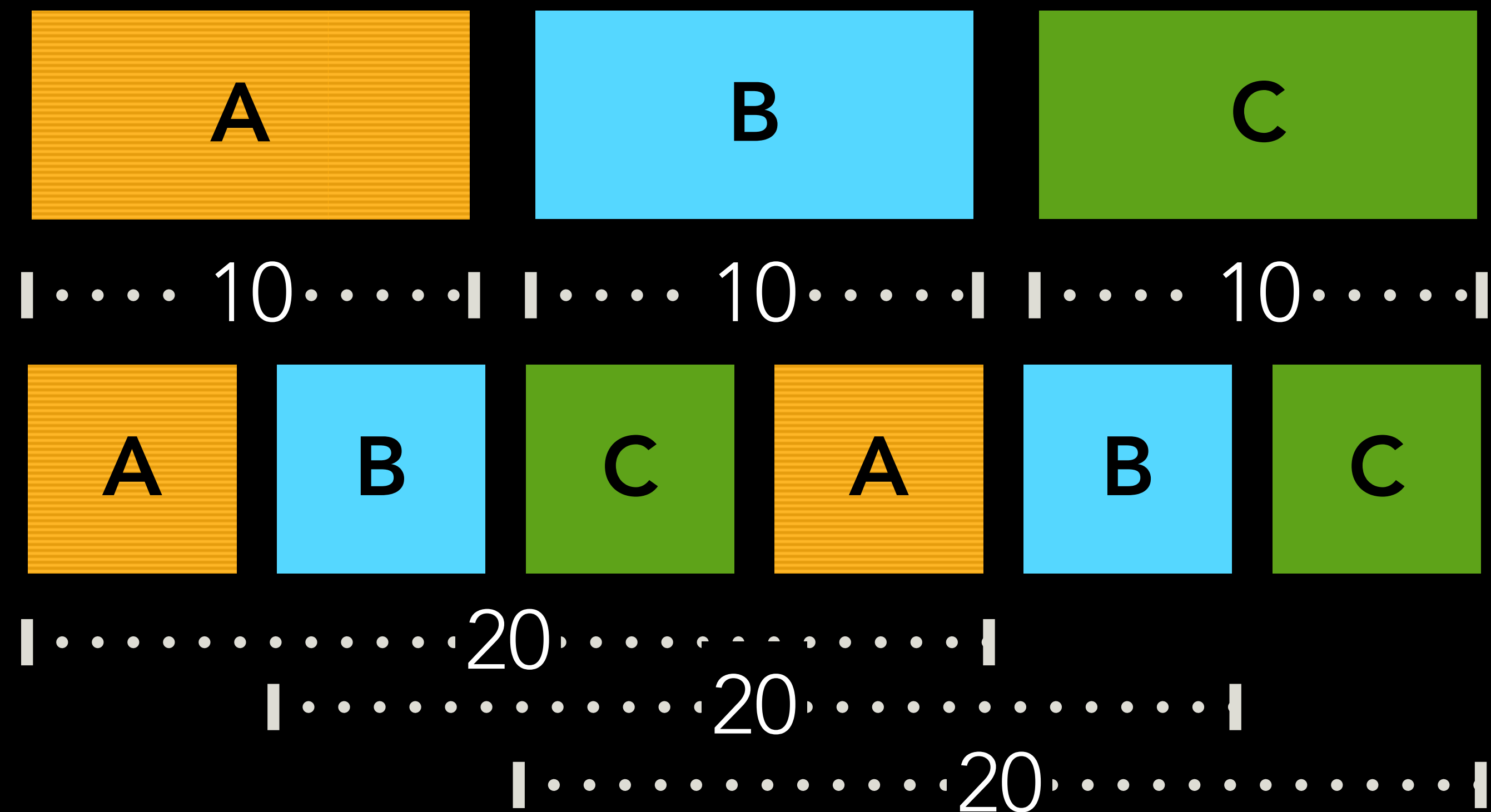
- Kanban boards
- Visual work management



heijunka board

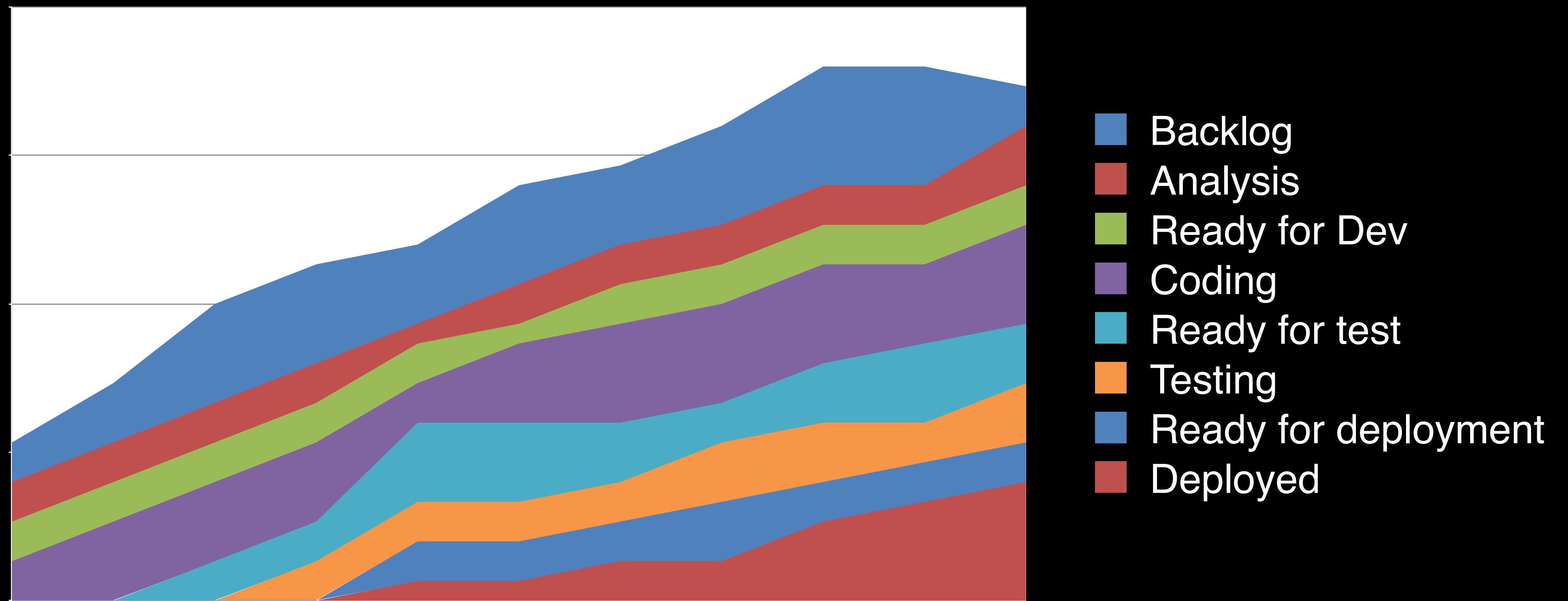
LIMIT WORK IN PROGRESS (WIP)

“Do you realize what impact *multi-tasking* has on lead time?”



MANAGE FLOW

- Cumulative Flow Diagrams (CFD)



MAKE POLICIES EXPLICIT

- Explicit policies are on the board.
- Board rules



IMPLEMENT FEEDBACK LOOPS

- Daily standup meetings
- Weekly replenishment meetings
- Monthly operations review meetings

IMPROVE, EVOLVE

- Improve collaboratively, evolve experimentally (using models and the scientific method).

TO SCRUM, KANBAN OR BOTH?

- Do you have separate teams for new development and maintenance?
- Do have a enough people for a cross-functional Scrum team?
- Can your team focus for 2-4 weeks with minimal interruption?
- Is the company culture against Agile?

GETTING STARTED WITH KANBAN

- Proto-Kanban
 - Get a whiteboard
 - Map your value stream (Todo, WIP, Done)
 - Limit WIP to 2 cards per person
 - Start a daily standup



CONCLUSION

- Kanban provides an agile method that works along with other software development methods or by itself.
- Kanban's ease of implementation allows for its deployment in a wide variety of environments.
- Kanban is a significant improvement over "ad hoc" software development
- Kanban is a method that can be considered for all aspects of IT include portfolio management, software development and operations.

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