

Introduction to Kanban Part 1

18F



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Goals & Objectives

- Understand the main characteristics of a good kanban implementation
- Be able to explain how a pull system matches capacity and demand and how a kanban board implements a pull system
- Be familiar with some of the most basic kanban board design techniques
- Be able to function effectively on a team that is using kanban
- Be aware of some approaches to scaling kanban across an organization

Agenda

Basic Premises and
Background

Kanban Board Basics

Representing Process

Representing Work

Pull Systems

Work in Progress

WIP Limits

Classes of Service

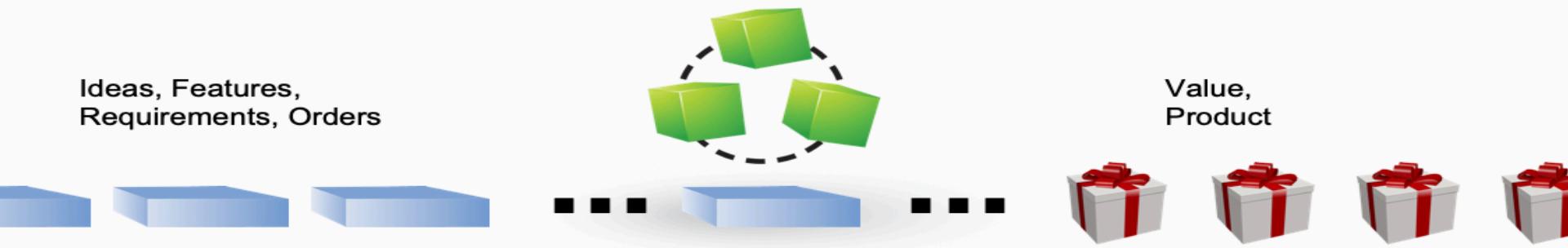
Process Policies

Why bother with kanban?

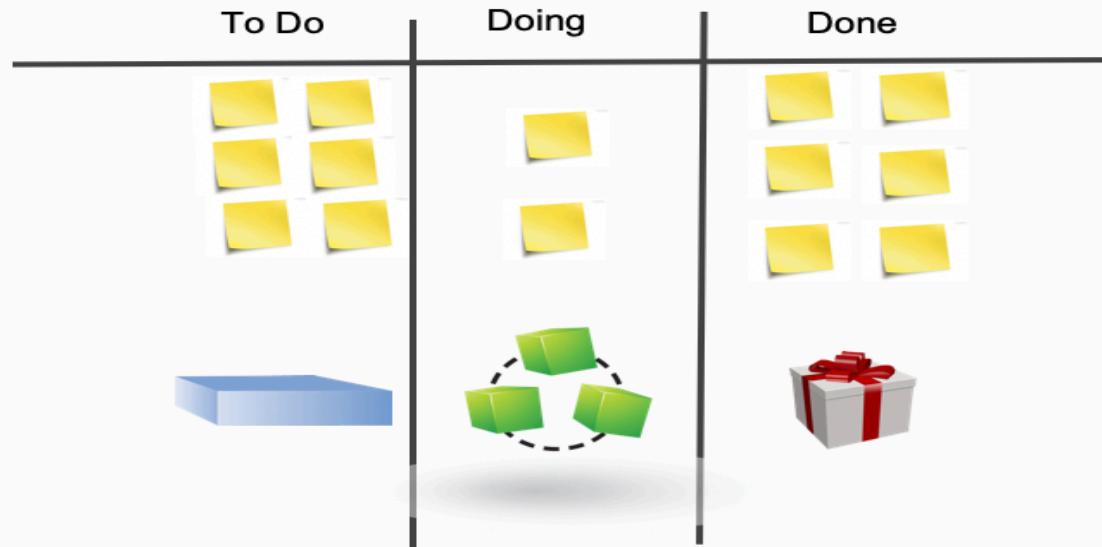
- Improve **Productivity** and Reduce Waste
- Improve **Manageability** and Predictability
- Improve **Morale** and Team Communication
- It's **easy** to start - no changes required

The Kanban Board

Flow



Basic One-Piece Flow Kanban Board



It's really this simple.

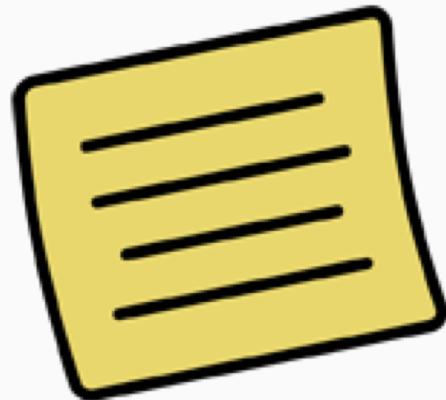


What A Kanban Board Does

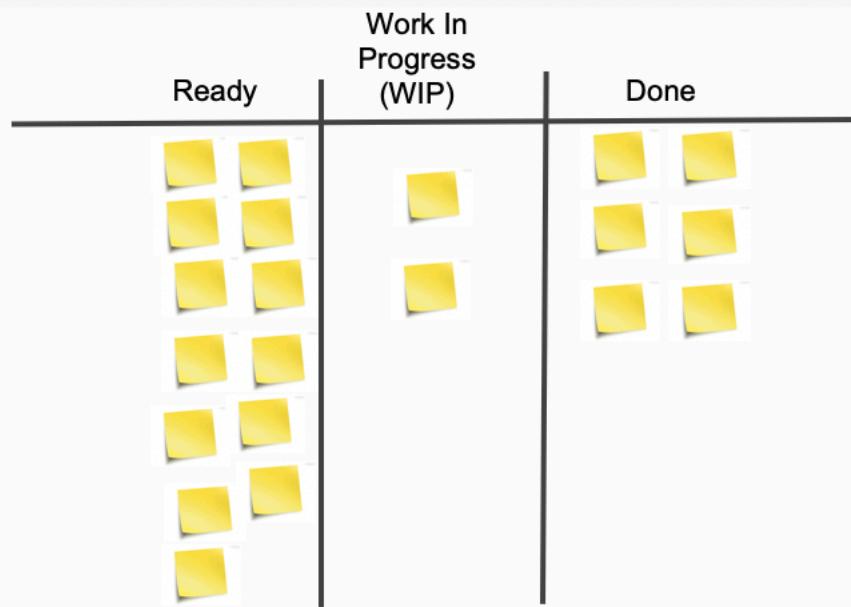
- Make process visible
- Implement a *pull* system
 - Limit WIP
 - Match demand to capacity

Representing Work Items

Kanban Card



Make Process Visible



Work in Progress - An Expensive Thing

- Cards = knowledge workers' inventory
- Knowledge work has inventory costs too:
 - Decay
 - Change
 - Opportunity Cost
 - Inability to pivot in response to new information
- By not limiting WIP, we allow process inefficiency to remain hidden.
- Limiting WIP is part of a *pull* system
- Excess WIP increases cycle time

Problem? What problem?

The prehistoric part of the human brain, called the amygdala, is programmed to trigger a “fight or flight” response in the face of a perceived threat.

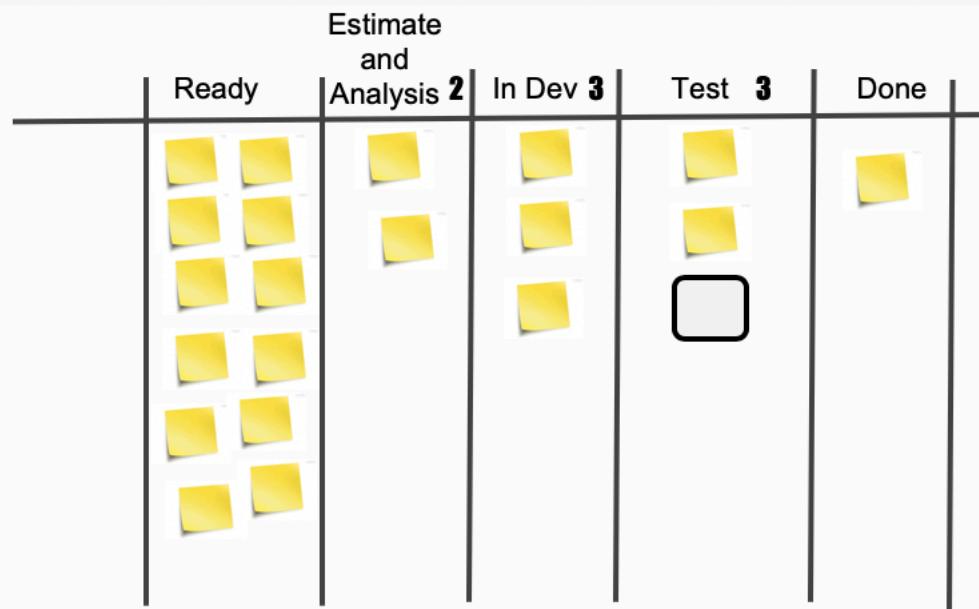
When this happens, our higher-level cognitive thinking is shut off.



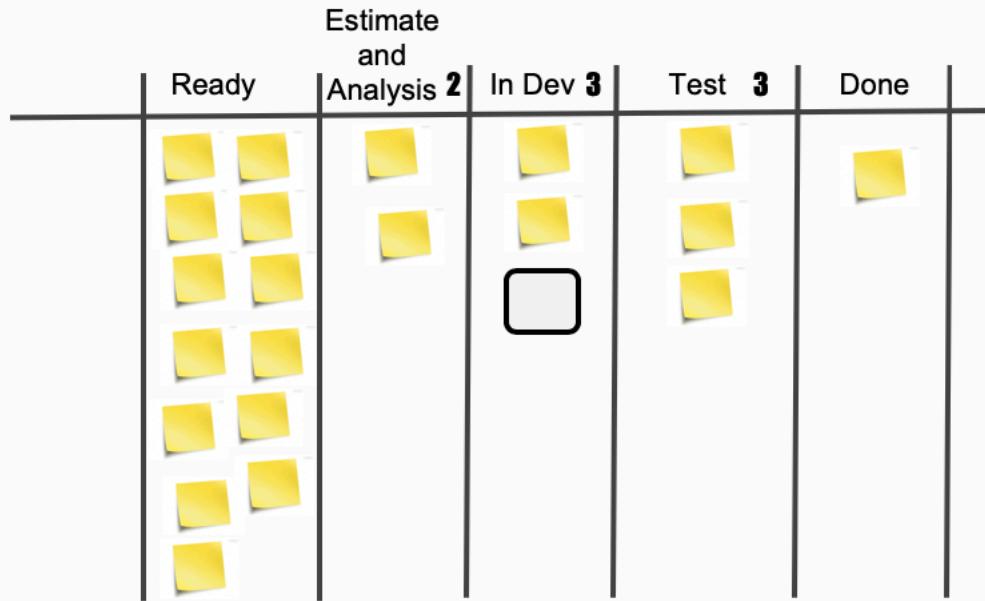
How a Pull System works



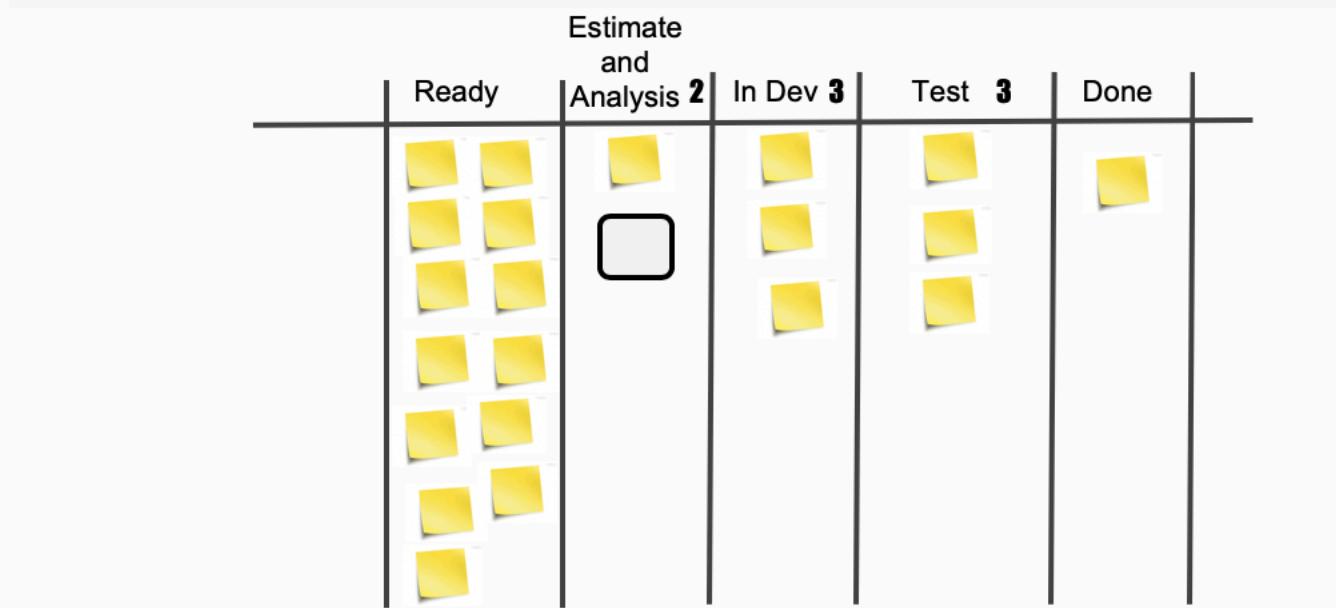
How a Pull System works - Available Capacity



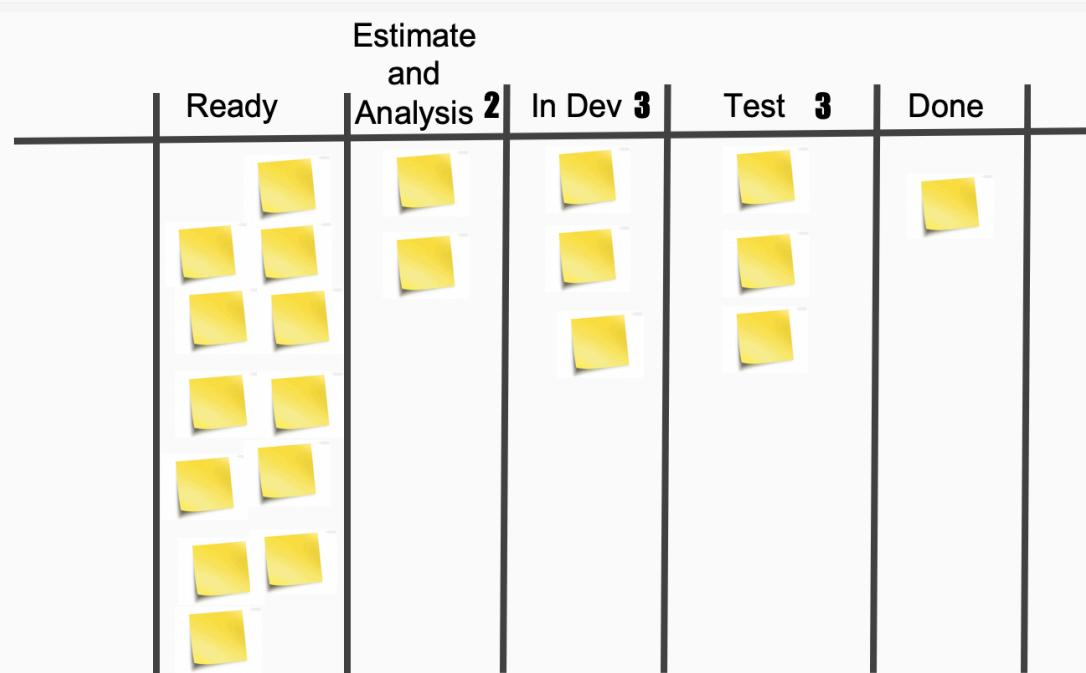
How a Pull System works - Pull work forward



How a Pull System works - Pull work forward slide 2



How a Pull System works - Full Pipeline

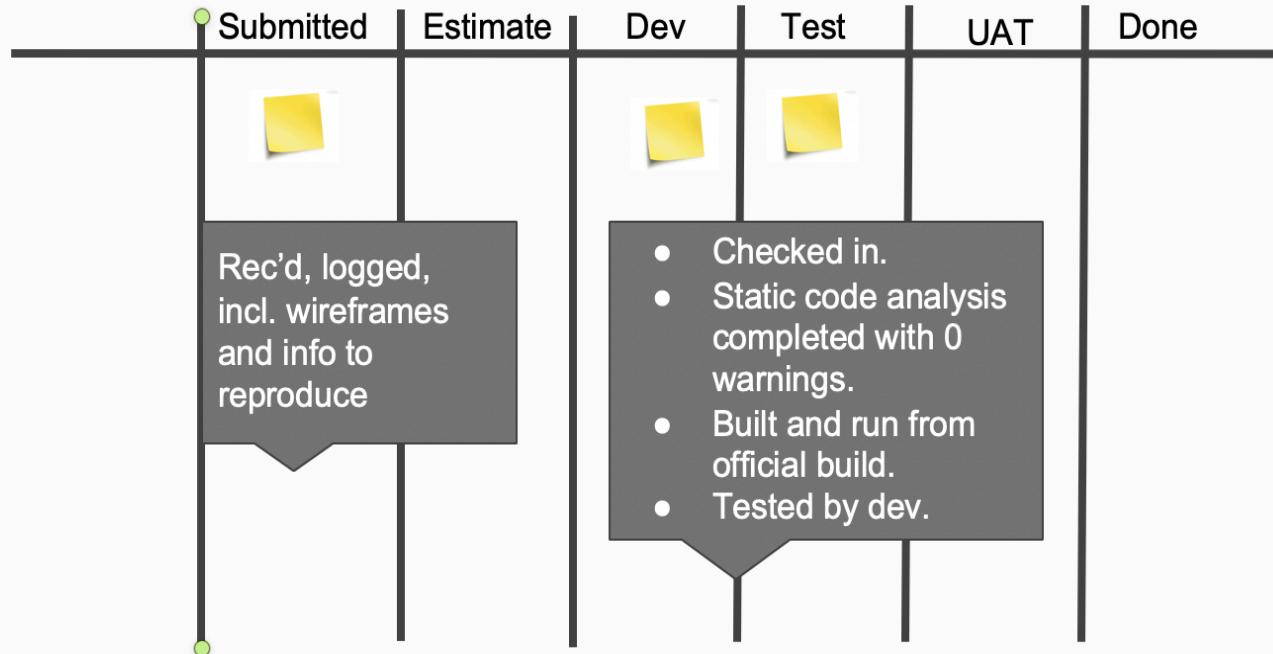


“It ain’t no Kanban board if it
don’t got WIP limits and
implement a pull system.”

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Making Policies Explicit

Policies and Transitions

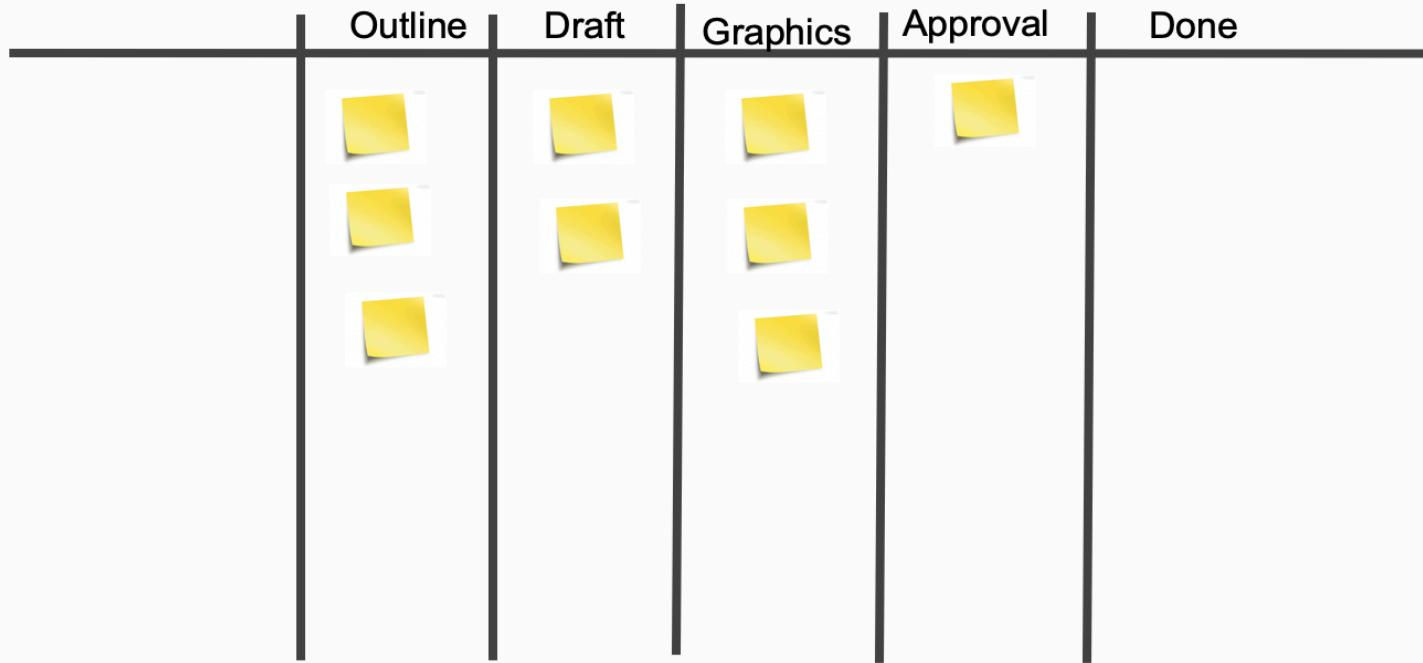


Creating Your Starter Kanban Board (Call a coach)

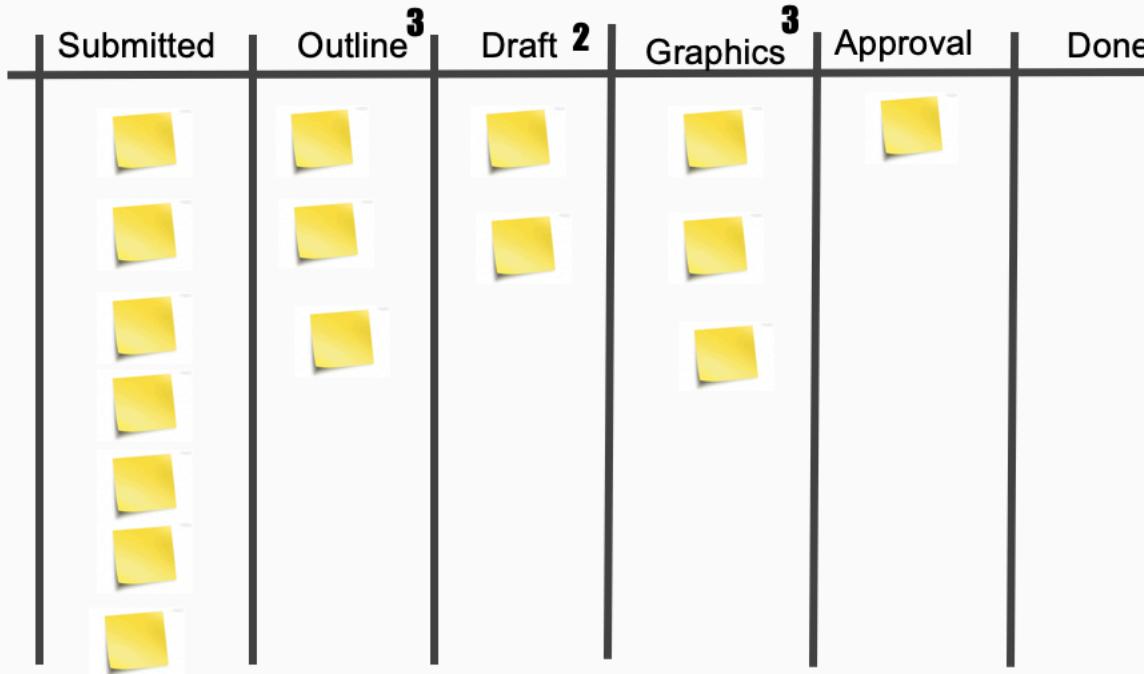
Steps in designing a Kanban Board

- Map and Analyze the Value Chain
 - Represent the value chain as it currently exists
 - “Start where you are, not where you hope to be”
- Provide some buffers
- Start with relatively loose WIP limits
- Create the board on the wall or whiteboard
- Choose online tool later if and when you must

Initial Value Chain (what we do now)



Initial WIP limits are a guess



Swim Lane WIP Limits



What we've covered today

Backlog 4	Work-in-Progress			DONE
	Dev	Testing 3	Ready for Demo 5	
<ul style="list-style-type: none">• Create new account• Log in	<ul style="list-style-type: none">• Search functionality• User Authentication	<ul style="list-style-type: none">• Test search functionality• Test user authentication• Total count: 108		<ul style="list-style-type: none">• Search functionality• User Authentication• Total count: 102
<ul style="list-style-type: none">▶ Schedule demo when down to 1 feature in backlog.	<ul style="list-style-type: none">• Record WIP start date.	<ul style="list-style-type: none">• Verify acceptance criteria.	<ul style="list-style-type: none">▶ Schedule demo when 2 features are ready-for-demo.• Demo feature.• Customer accepts feature.• Record WIP End date.	<ul style="list-style-type: none">• Enjoy a Pint!

Search Con Index

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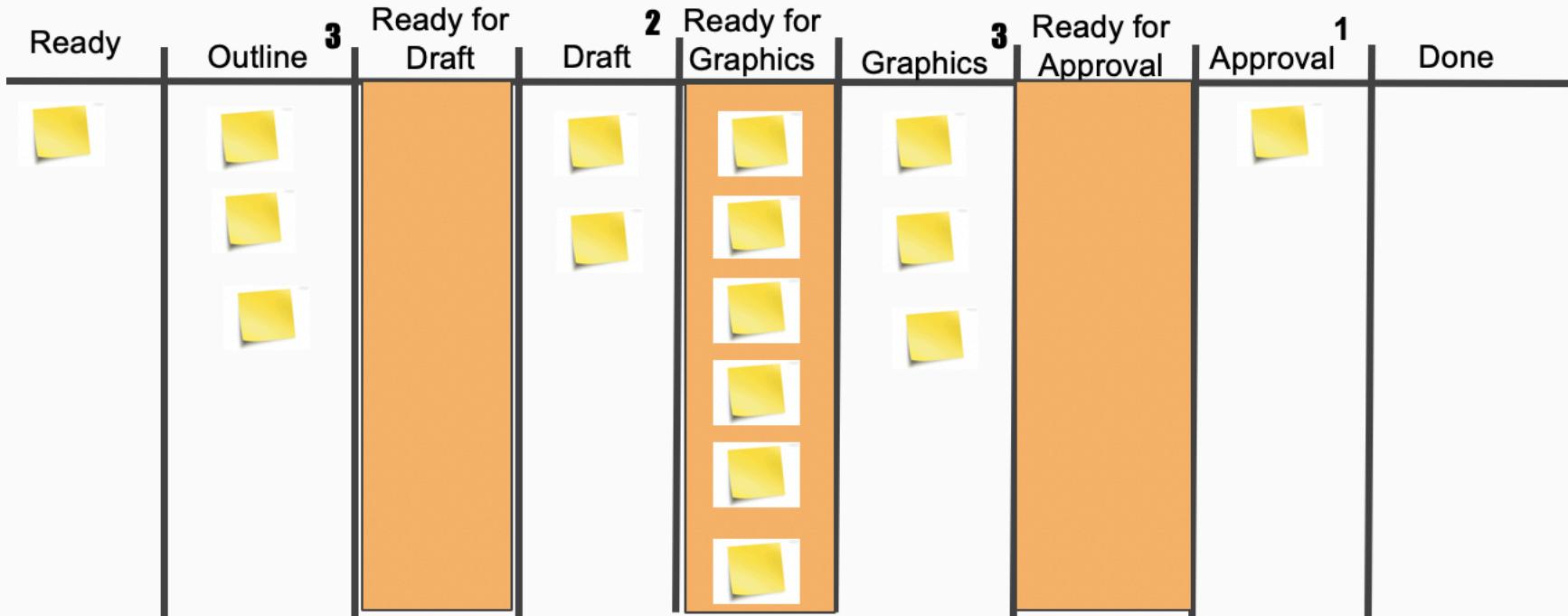
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Kanban will return in “Intro to Kanban, Part II”



Buffer Queues



Swim Lanes



Kanban Card Information

- Electronic ID #
- Title
- Description
- Owner(s)
- Hard Delivery Date
- Date Accepted (start cycle time)
- Blocked Y/N
- Work Item Type

Policies and Transitions - From 18F Staffing board

To advance to the **Staffing** column:

The project is identified by the BU as one of their top two priorities for staffing.

↳ What happens in the **Staffing** column:

Staff is assigned to the project and a kickoff date is identified.

To advance to the **Runway** column:

The project has a full staff and Chapter/Biz Unit consensus on a kickoff date.

↳ What happens in the **Runway** column:

The project awaits the kickoff date.

To advance to the **In Flight** column:

The project begins billable work (or internal equivalent).

↳ To advance to the **Done** column:

18F's obligation to the partner (as stated in the agreement) is discharged.

Buffer Queues slide 2

Smooth out demand

Keep flow moving in the face of variability

Provide visibility of bottlenecks