Introduction to Kanban Part 1
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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

Idea, Features, Requirements, Orders

Value, Product
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
● 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
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

<table>
<thead>
<tr>
<th>Ready</th>
<th>Estimate and Analysis 2</th>
<th>Dev 3</th>
<th>Test 3</th>
<th>Done</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

15 post-it notes are shown, indicating tasks or steps in the process.
## How a Pull System works - Available Capacity

<table>
<thead>
<tr>
<th>Ready</th>
<th>Estimate and Analysis 2</th>
<th>In Dev 3</th>
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</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Post-it notes" /></td>
<td><img src="image2.png" alt="Post-it notes" /></td>
<td><img src="image3.png" alt="Post-it notes" /></td>
<td><img src="image4.png" alt="Post-it notes" /></td>
<td><img src="image5.png" alt="Post-it notes" /></td>
</tr>
</tbody>
</table>
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.”

alan
Making Policies Explicit
Policies and Transitions

Submitted: Rec’d, logged, incl. wireframes and info to reproduce

Estimate:

Dev:
- Checked in.
- Static code analysis completed with 0 warnings.
- Built and run from official build.
- Tested by dev.

Test:

UAT:

Done:
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

<table>
<thead>
<tr>
<th>Submitted</th>
<th>Outline</th>
<th>Draft</th>
<th>Graphics</th>
<th>Approval</th>
<th>Done</th>
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Swim Lane WIP Limits

<table>
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<tr>
<th>Feature Articles</th>
<th>Concept</th>
<th>Pitch</th>
<th>Outline 3</th>
<th>Draft 3</th>
<th>Layout 2</th>
<th>Done</th>
</tr>
</thead>
<tbody>
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<tr>
<td>Blog Posts</td>
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What we’ve covered today
Kanban will return in “Intro to Kanban, Part II”
Buffer Queues
### Swim Lanes

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</table>
• Electronic ID #
• Title
• Description
• Owner(s)
• Hard Delivery Date
• Date Accepted (start cycle time)

• Blocked Y/N
• Work Item Type
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.
Smooth out demand

Keep flow moving in the face of variability

Provide visibility of bottlenecks