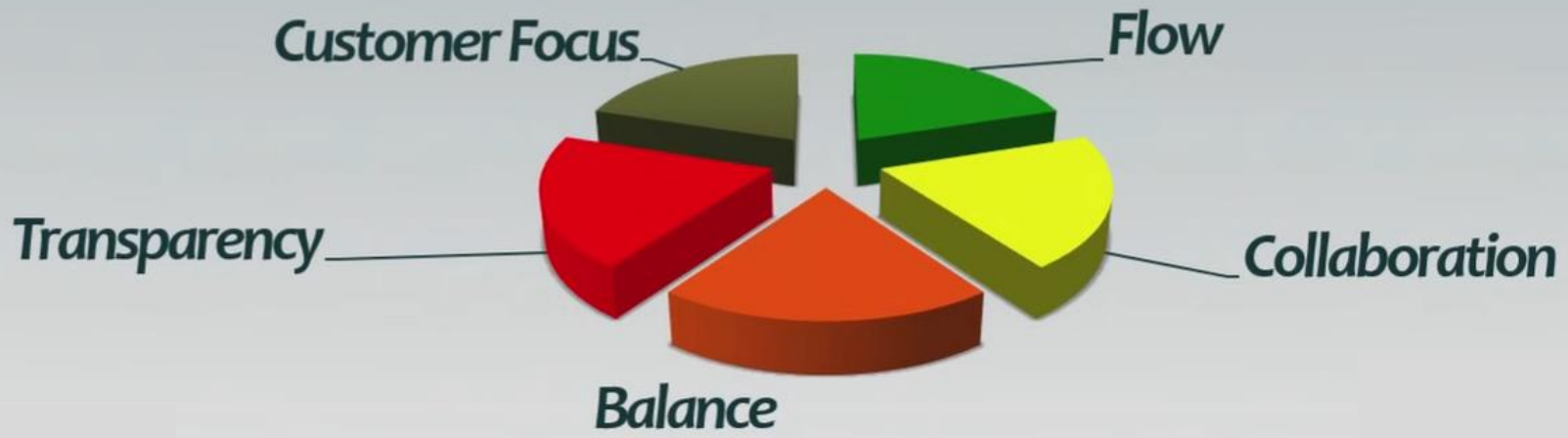
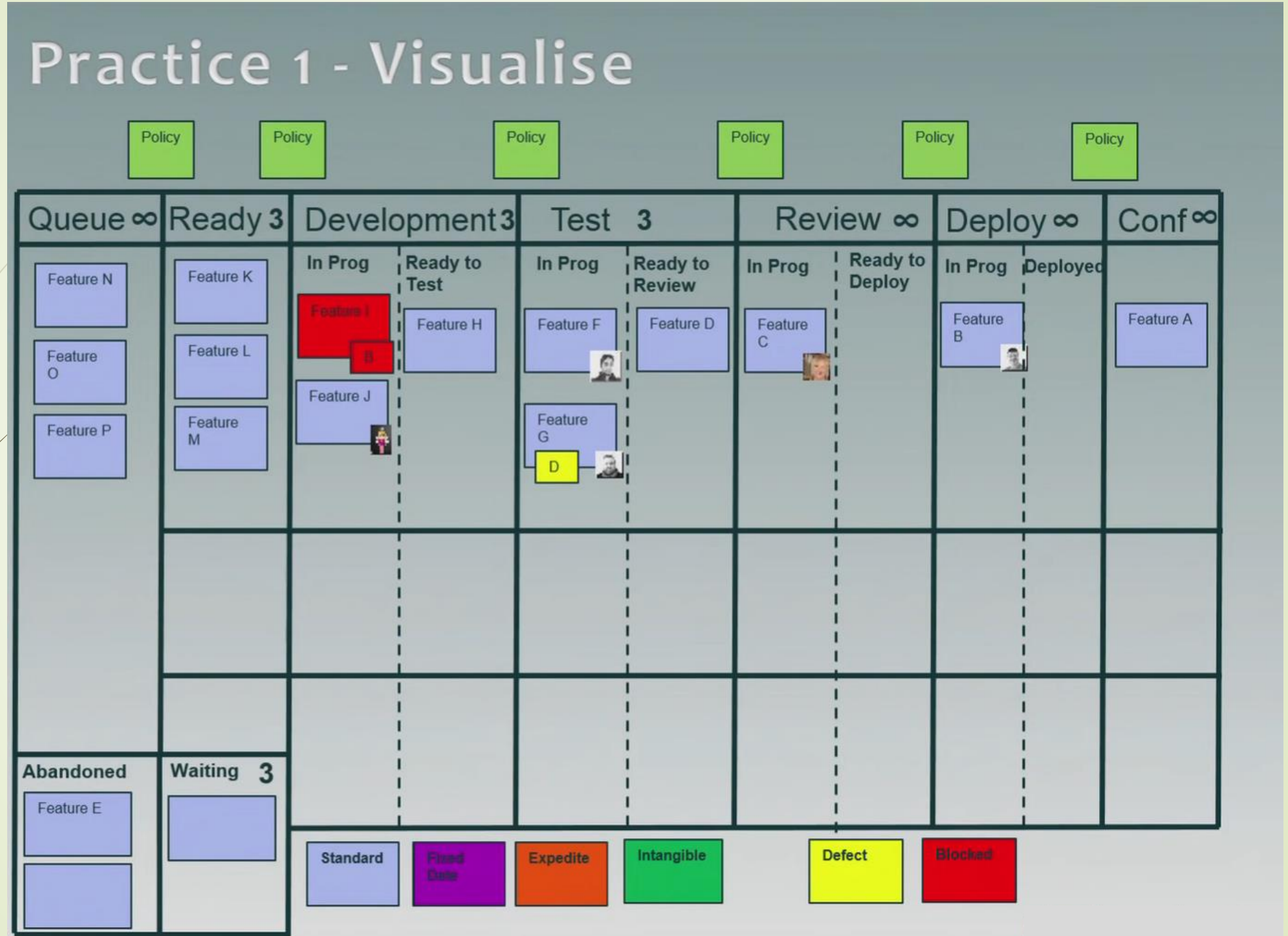
Kanban Methodology

Core Practices of the Kanban Method

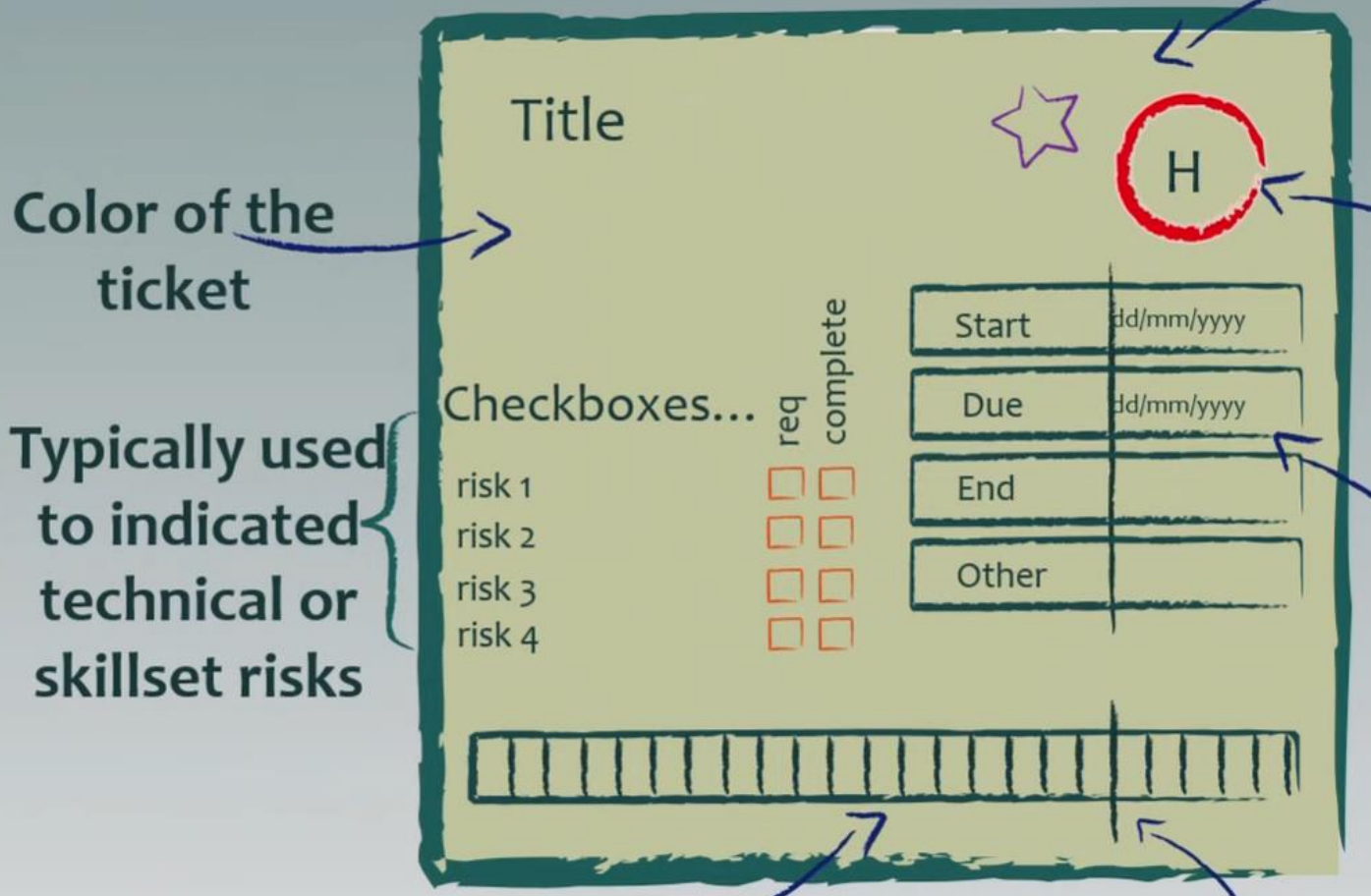
- Visualize
- Limit Work In Progress (WIP)
- Manage flow
- Make policies explicit
- Implement feedback loops
- Improve collaboratively, evolve experimentally (using models & scientific method)



Practice 1 - Visualise



Ticket Design



Decorators (Shape & Color)

Sometimes used to highlight technical dependencies

(Letter)

Sometimes used to visualize legacy process artifacts such as "priority"

Color of the ticket

Typically used to indicated technical or skillset risks

Dates

Sometimes used to record local cycle time per work state

Age (days elapsed)

SLA or Target Date

Practice 2 - Limiting WIP

- Encourage
  - –***Swarming***
  - –***Flow***
  - –***Pull***
  - –***Small*** Work Items
  - –***Finishing*** Work Items
  - –***Balance*** the board

- This means more than stopping Multi-tasking

Little's Law

Lead Time (5 days)

- Limit WIP to improve lead times
- Attack lead times (eliminate delays) and see WIP go down
- Increase throughput by adding capability directly or improve the process and see the benefit in lead times &/or WIP

$$\text{Average Lead Time (LT)} = \frac{\text{Average Work in Progress (WIP)}}{\text{Delivery Rate (DR)}}$$

$$\text{Average Lead Time (LT)} = \frac{10}{2 \text{ Per day}}$$

$$\text{Average Lead Time (LT)} = 5 \text{ days}$$

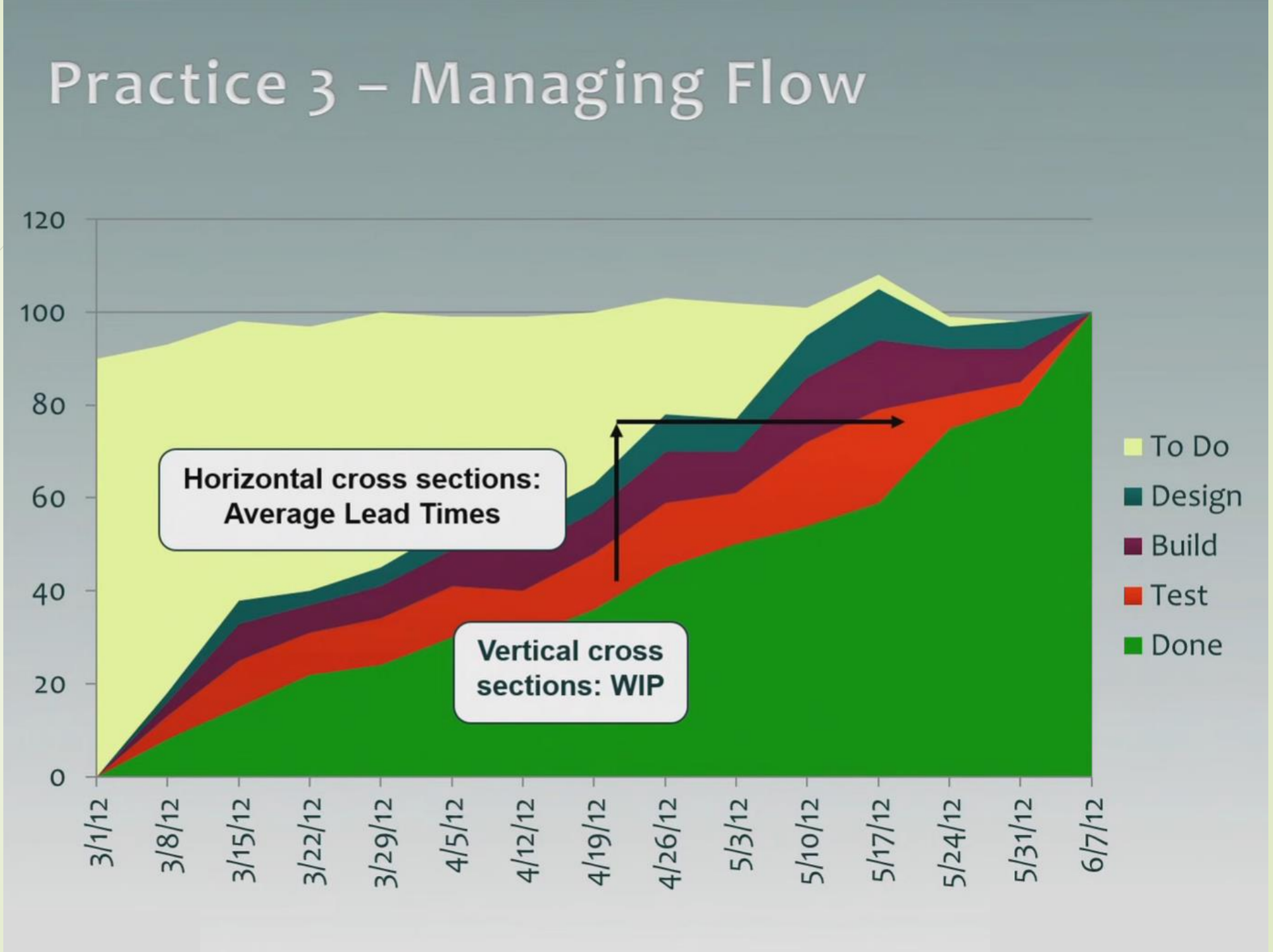
Where WIP = Total number of items in the system at a time

How to Set and Maintain Limits

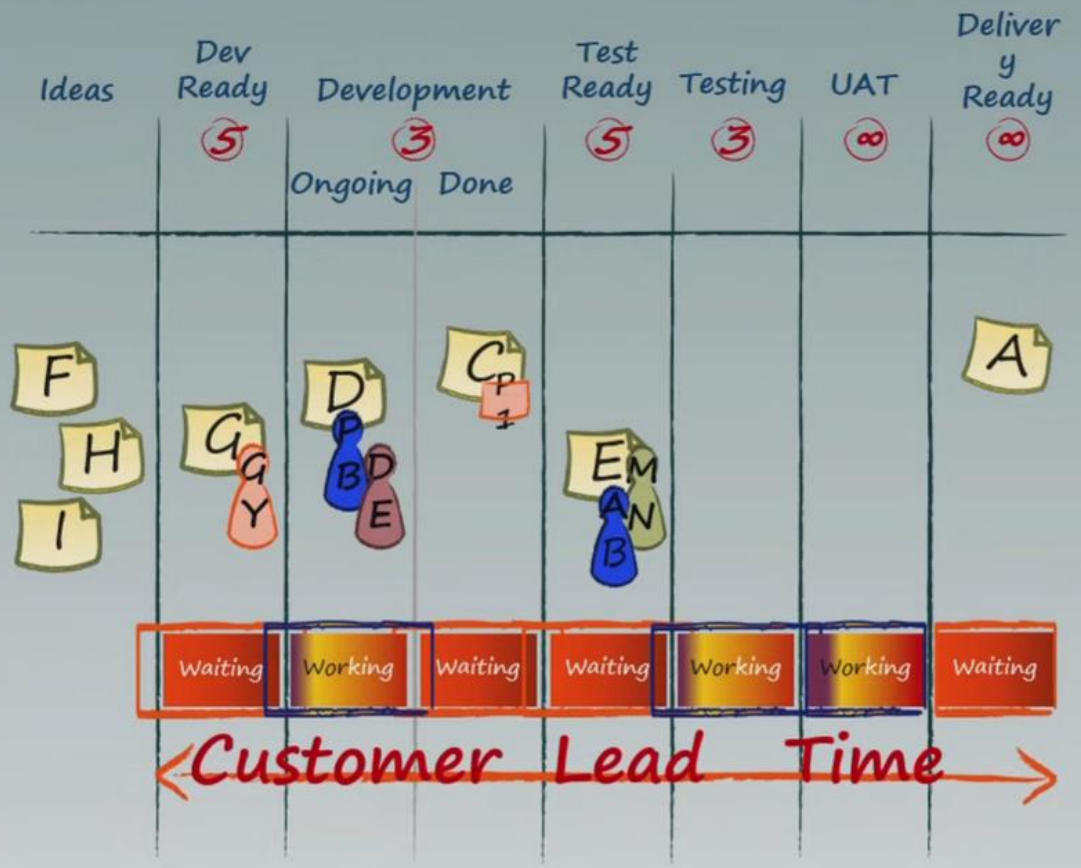
- Initially set limits:
  - By limiting items per person/pair
  - By considering target lead time
    (Use Little's Law as a guide)
  - Reduce them ***gradually***

- Then maintain them by considering:
  - Is the work flowing?
  - Are we ***seeing*** the problems to fix?
  - Conversely, are the problems too painful?
  - Blockers? Starvation?

Practice 3 – Managing Flow



Flow Efficiency



- Multitasking means time spent in working columns is often waiting time
- Flow efficiency measures the percentage of total lead time is spent actually adding value versus waiting
- Flow efficiencies of 1-5% are commonly reported. > 40% is good!

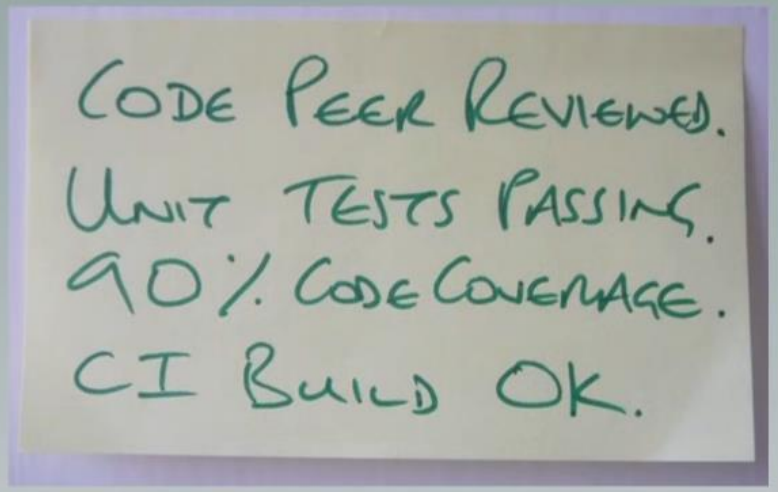
$$\text{Flow efficiency \%} = \frac{\text{Work Time}}{\text{Lead Time}} \times 100\%$$

Practice 4 – Make policies Explicit

Criteria for:

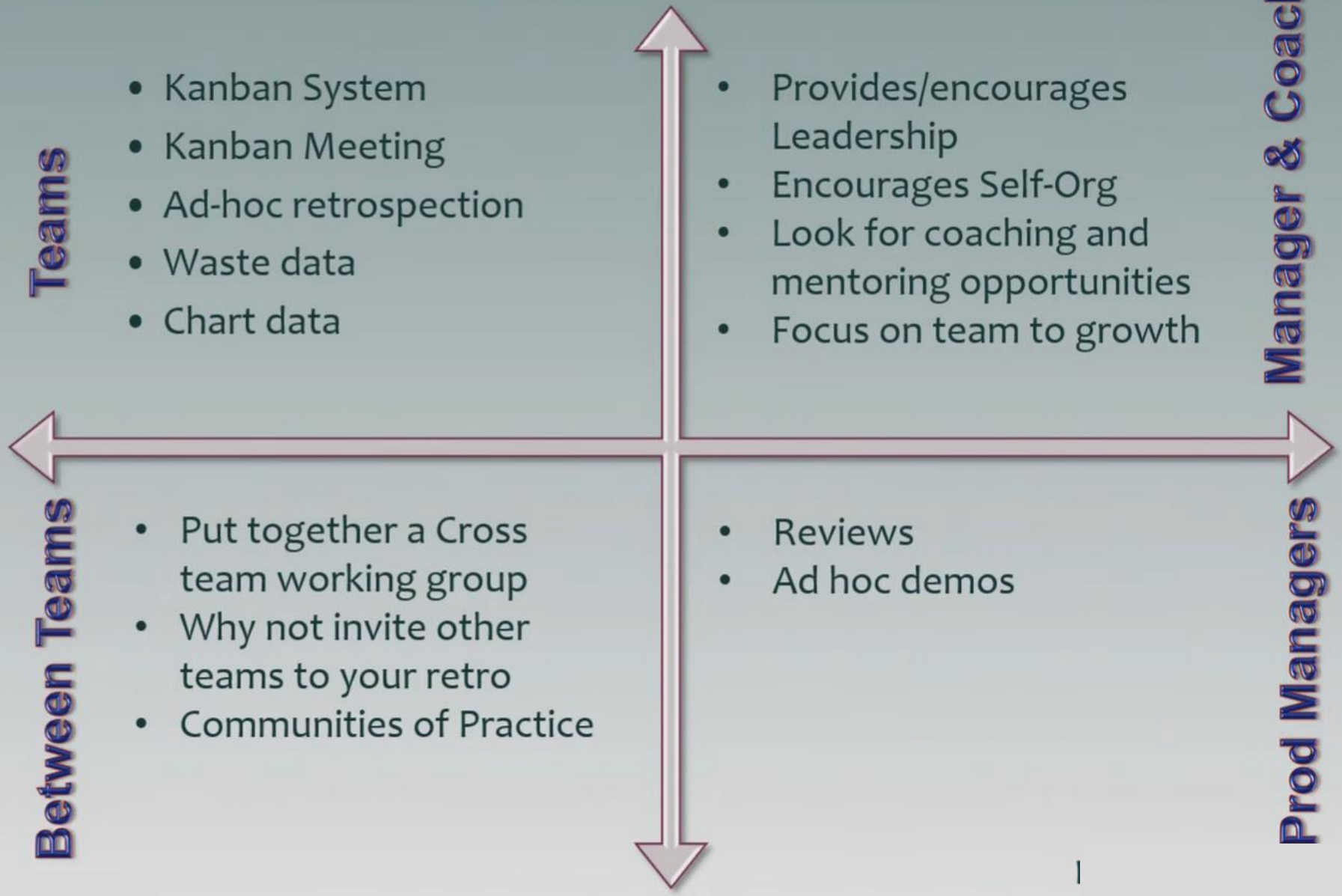
- Columns & Swim lanes
- Entry to Columns
- Class of Services
- Types of work
- Ways of working

- Must be
  - Discussed
  - Agreed
  - Documented
  - Reviewed regularly



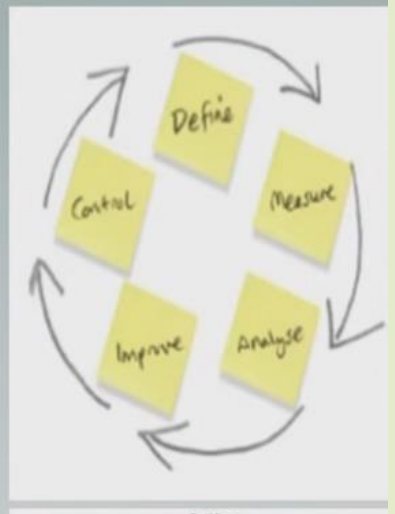
Policies help to control the flow of work and for others members to understand how to use the system.

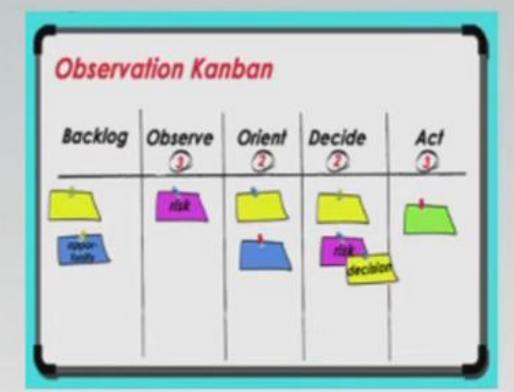
Practice 5 – Feedback Loops

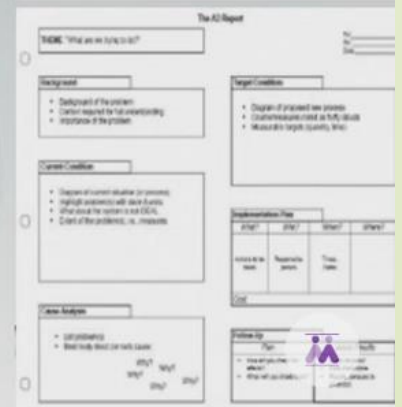


Practice 6 – Improve Collaboratively Using Scientific Models & Method

- What do you change?
  - How do you decide?
  - Who should decide?
- Scientific Method requires measurement
- Data is your friend
  - Shows improvement (or not)
  - Allows meaningful discussions around completion







Thank you for your attention!