



# WIP Limits: Lessons from the Trenches

*How to limit WIP at the team and organizational levels*

Stephen Franklin, CTO, LeanKit

May 28<sup>th</sup>, 2014

# Part III of Blog Series

Final installment of Stephen Franklin's blog series: **“WIP Limits - How to Journey (safely) Into the Unknown”**

# Today's Discussion

- How Kanban systems can help you manage your WIP and set limits
- Tips for implementing WIP at the team and organizational levels
- Lessons learned from the trenches at LeanKit



# STEPHEN FRANKLIN

CHIEF TECHNOLOGY OFFICER

# Is Your Organization Sub-Merged by a Tidal Wave of WIP?



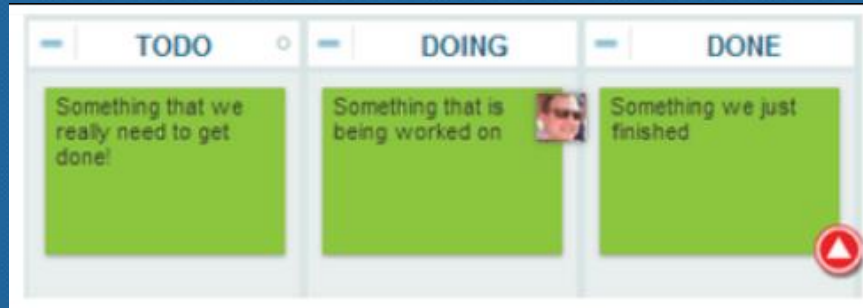
# WIP Limits: Blog Post Recap

- Part I:
  - What is WIP?
  - Why does limiting WIP matter?
  - Why is limiting WIP so hard?



# What is WIP?

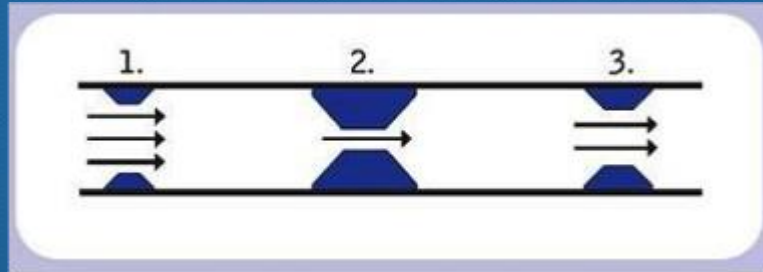
- “Value demand that has been started but is not yet providing value to the customer.”





# Why Manage WIP?

- All flow based systems have capacity limits
- Nearing or exceeding these limits results in bad things



# Why is Limiting WIP SO Hard?



# WIP Limits: Blog Post Recap

- Part II:
  - Personal WIP
  - Team (Execution) WIP
  - Organizational (Structural) WIP

# Managing Team (Execution) WIP

Limiting the team's WIP serves as the “lever” to implement a pull system so the amount of work to be executed matches the capacity of the team.



# Managing Organizational WIP

Limiting the strategic focus of the organization is less about flow and more about clear focus and direction.



# So, where do we go from here?





# We need a system!





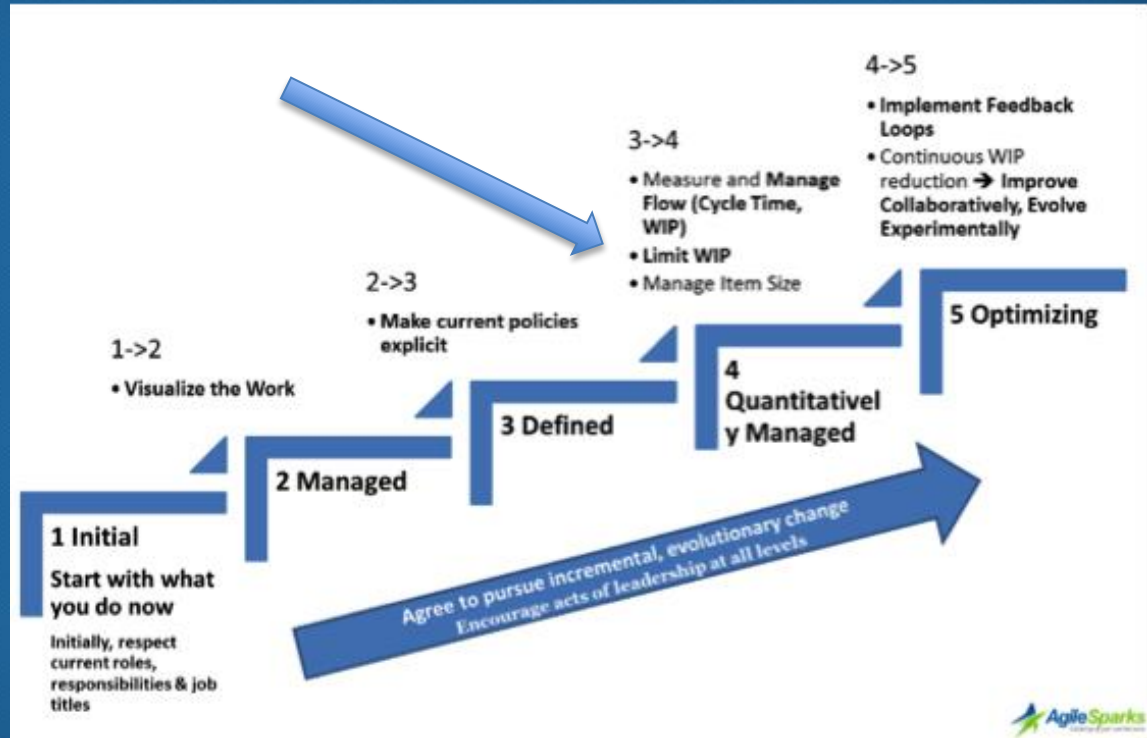
# Kanban to the Rescue!

- Why we think the Kanban Method is such a valuable tool for limiting WIP?



# Kanban to the Rescue!

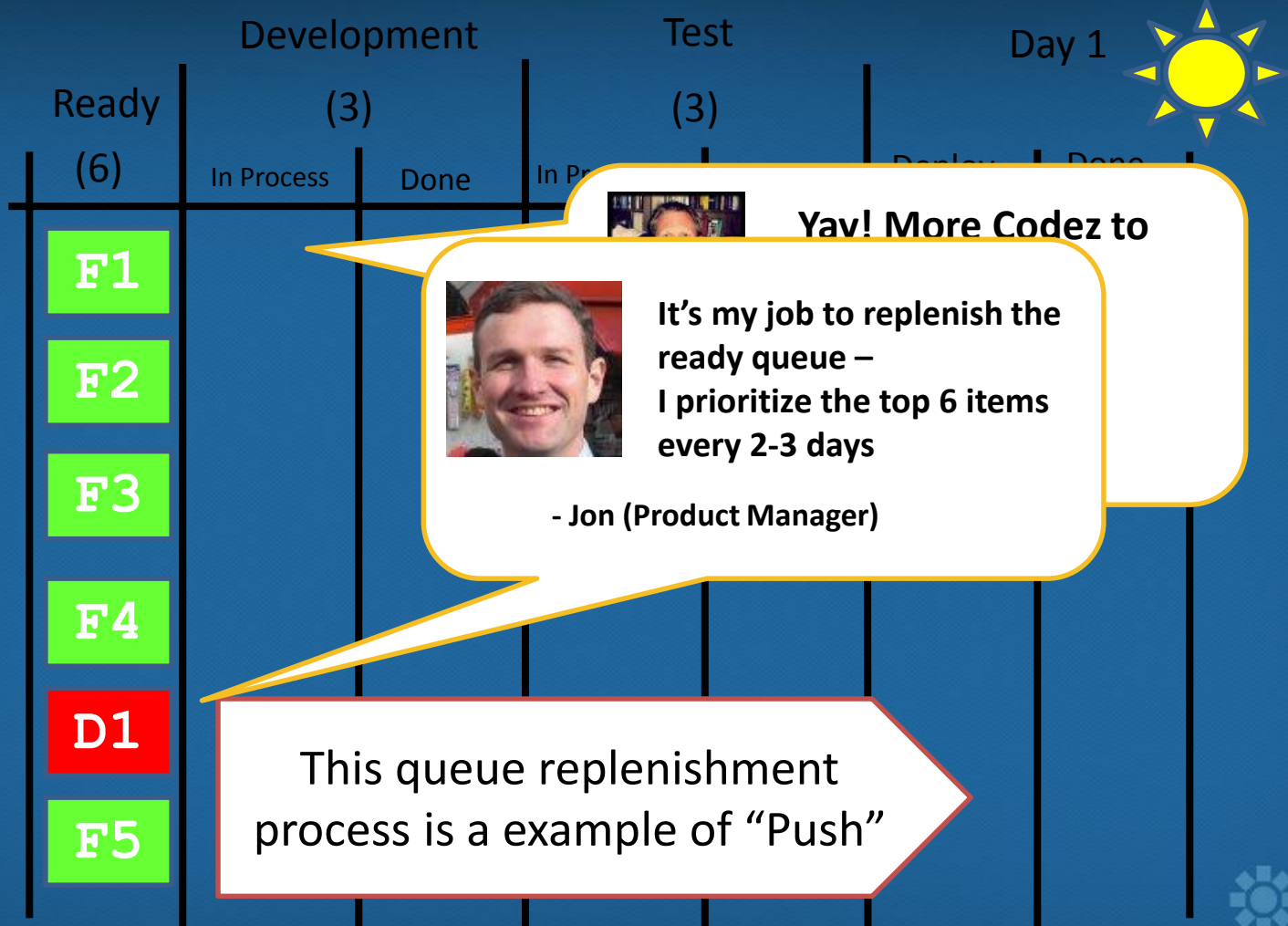
- Limiting WIP is a key tenet baked into the Kanban Method

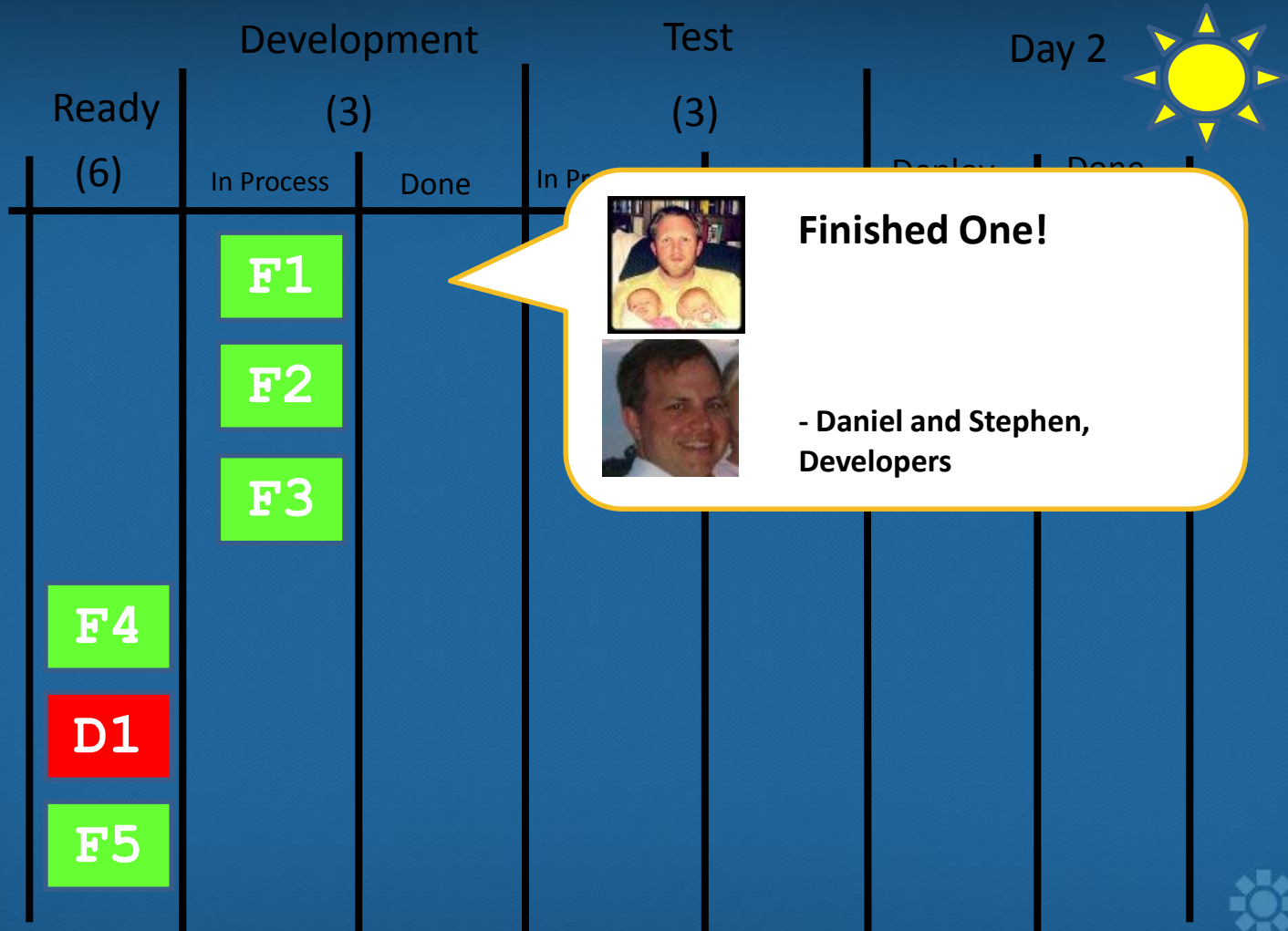


# Kanban to the Rescue!

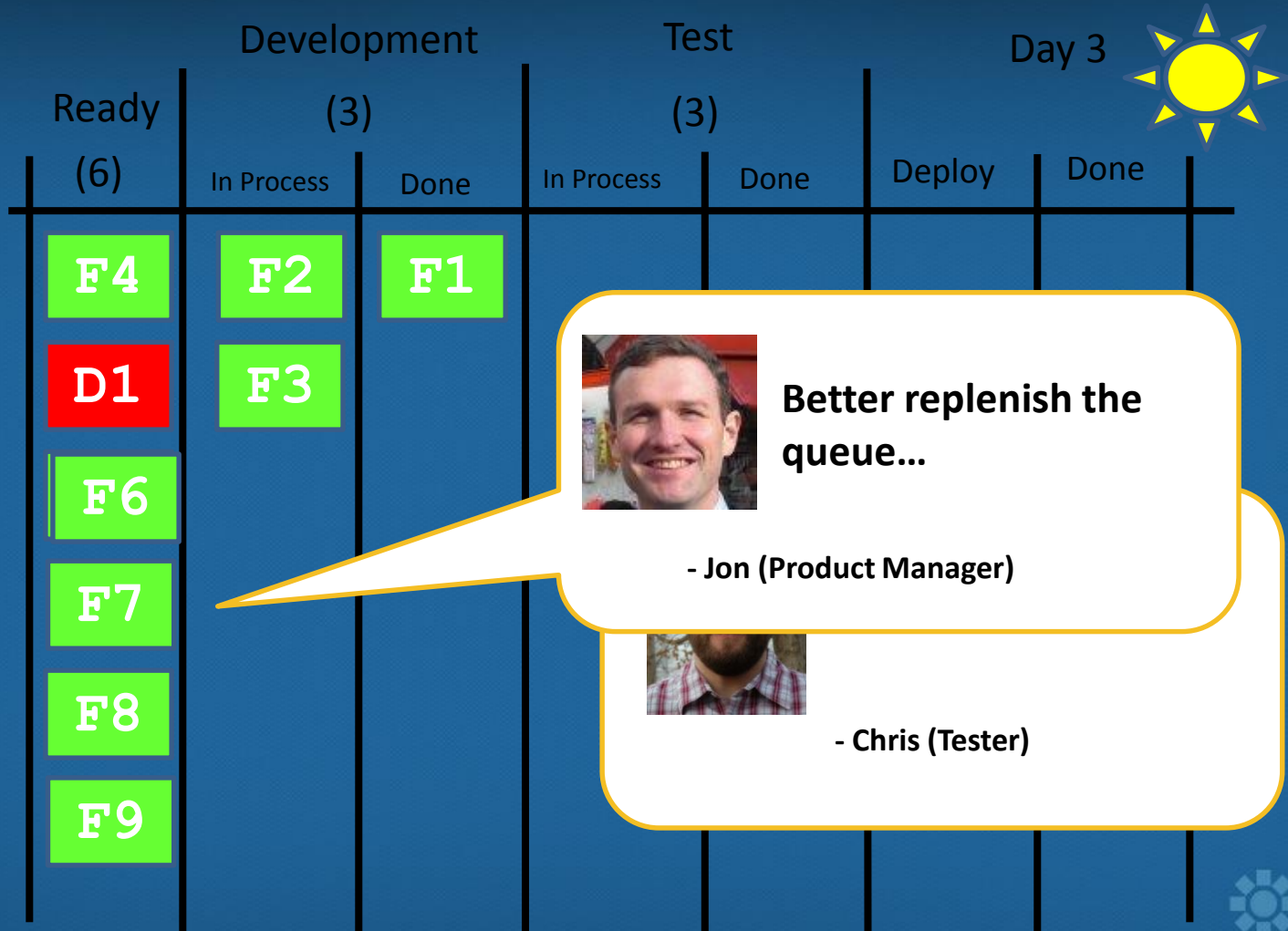
- We cannot manage what we do not understand
- To manage the work, we need a shared understanding it

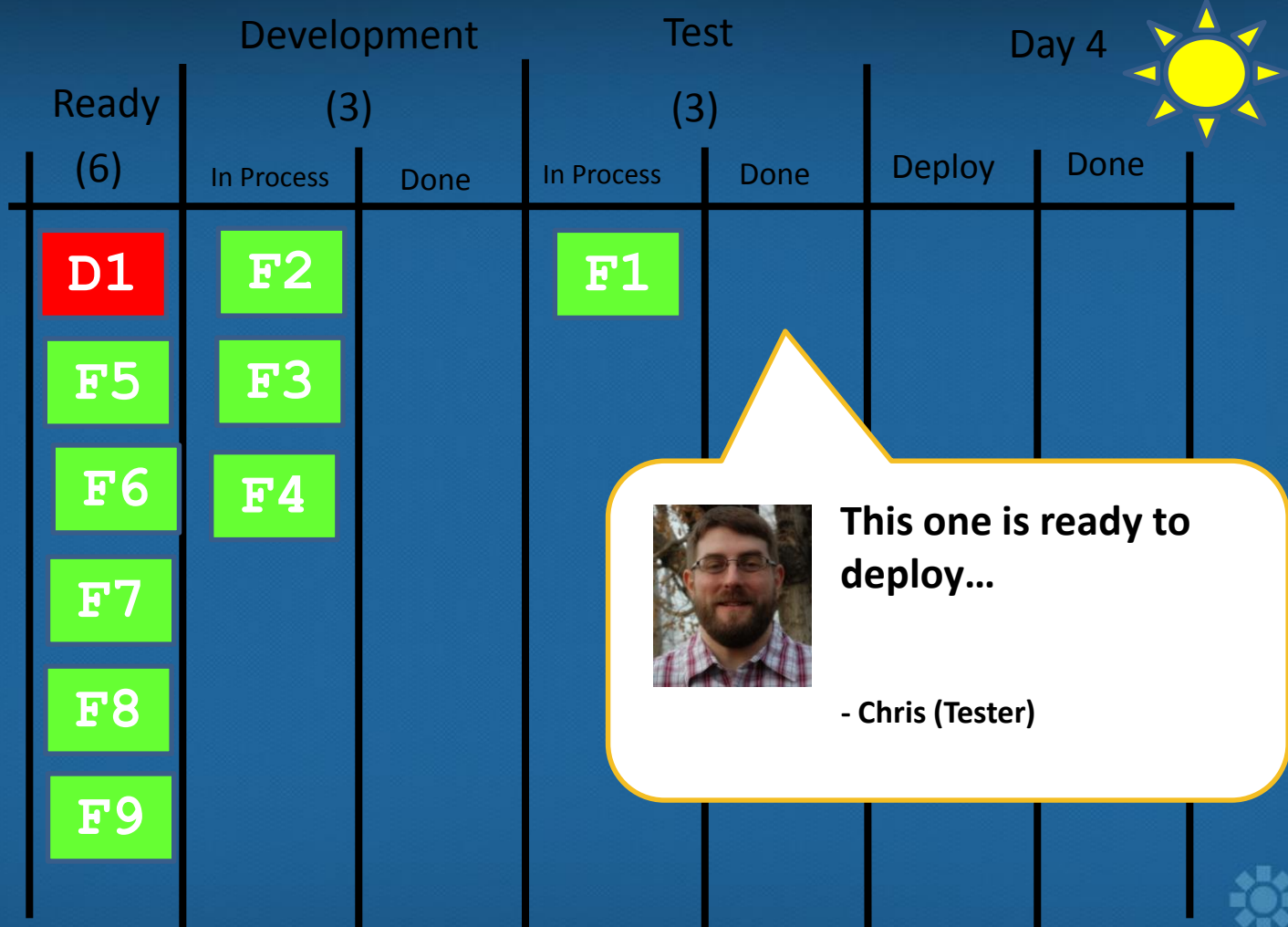






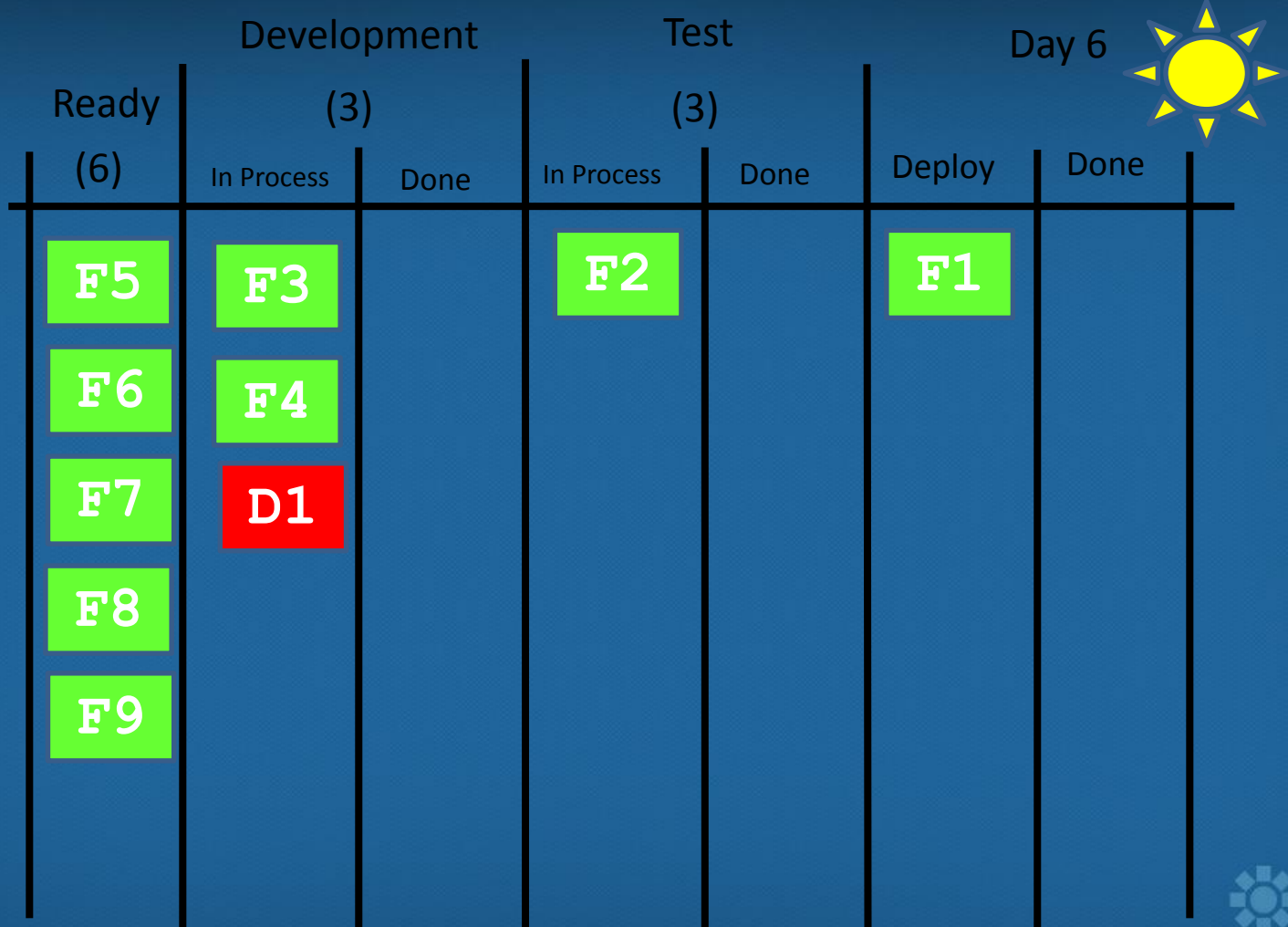




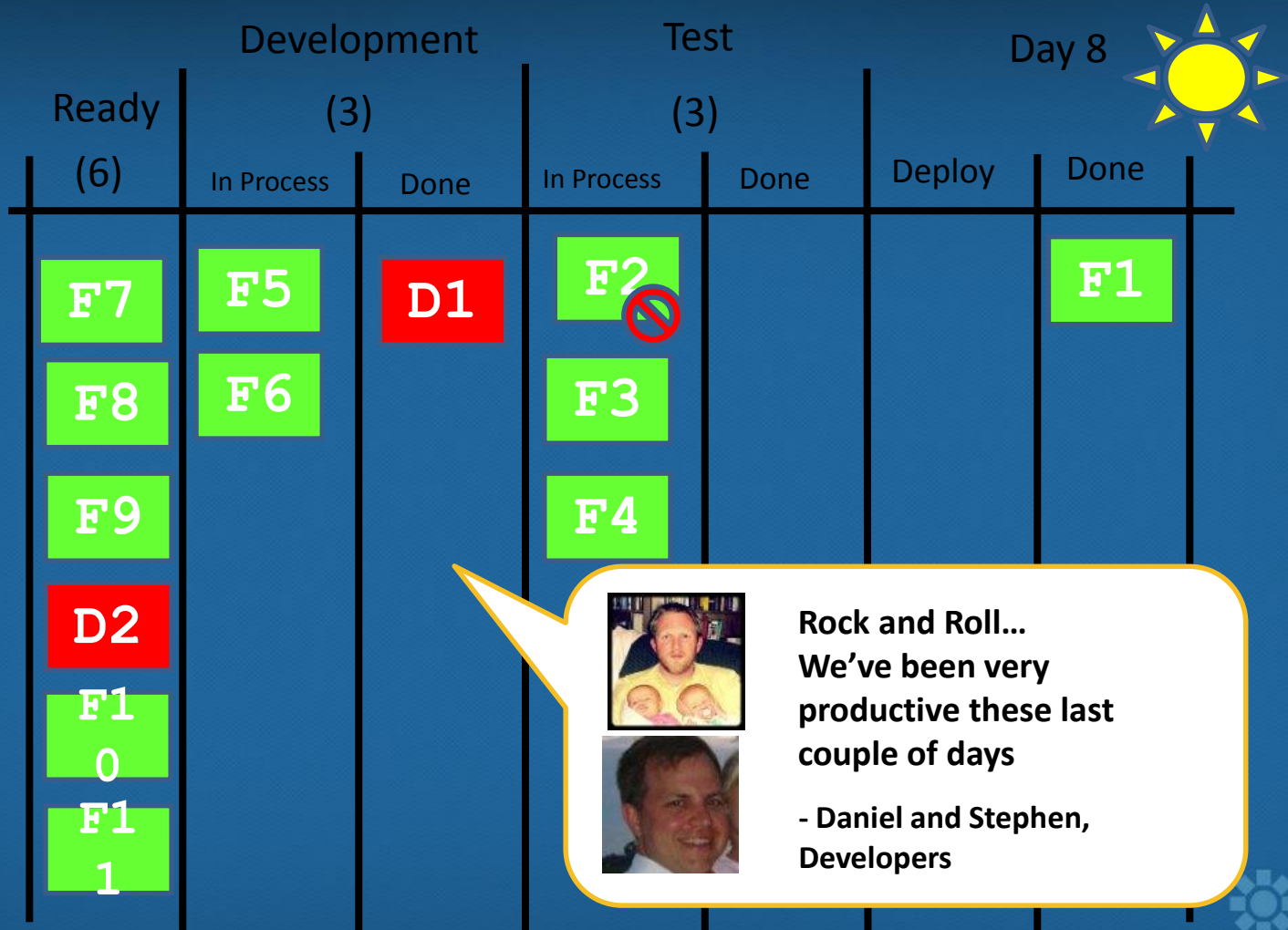








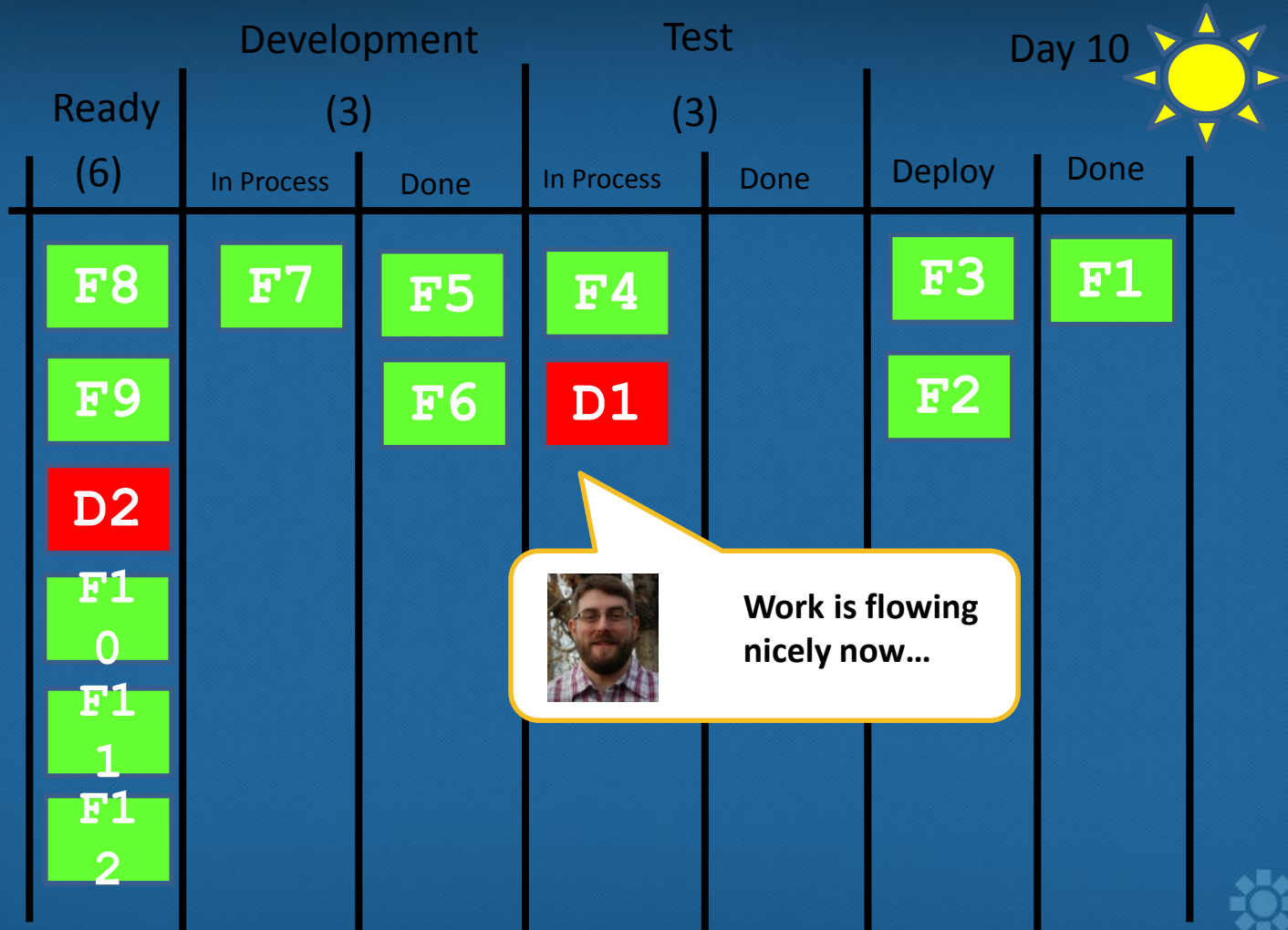


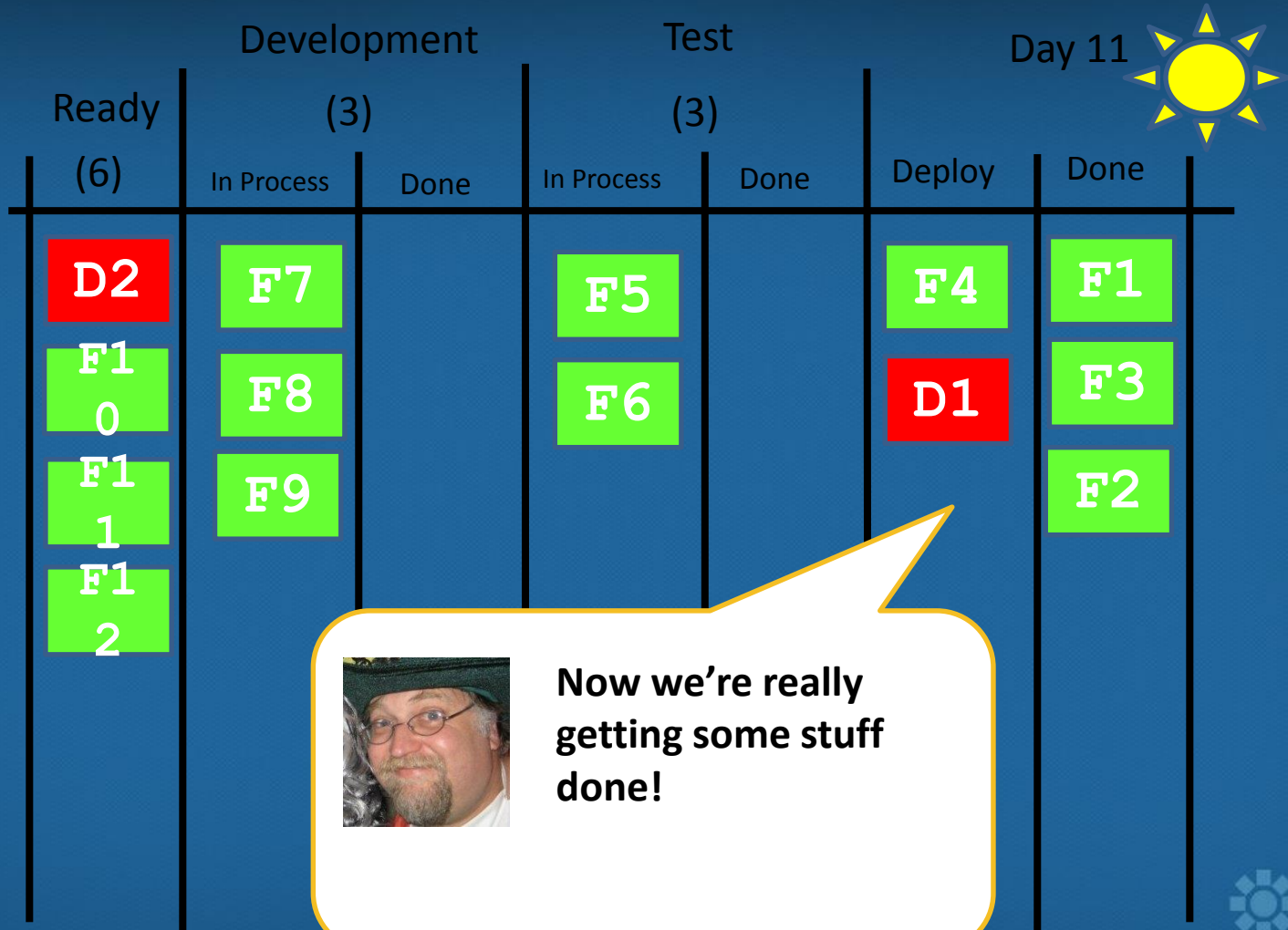


Rock and Roll...  
We've been very  
productive these last  
couple of days

- Daniel and Stephen,  
Developers

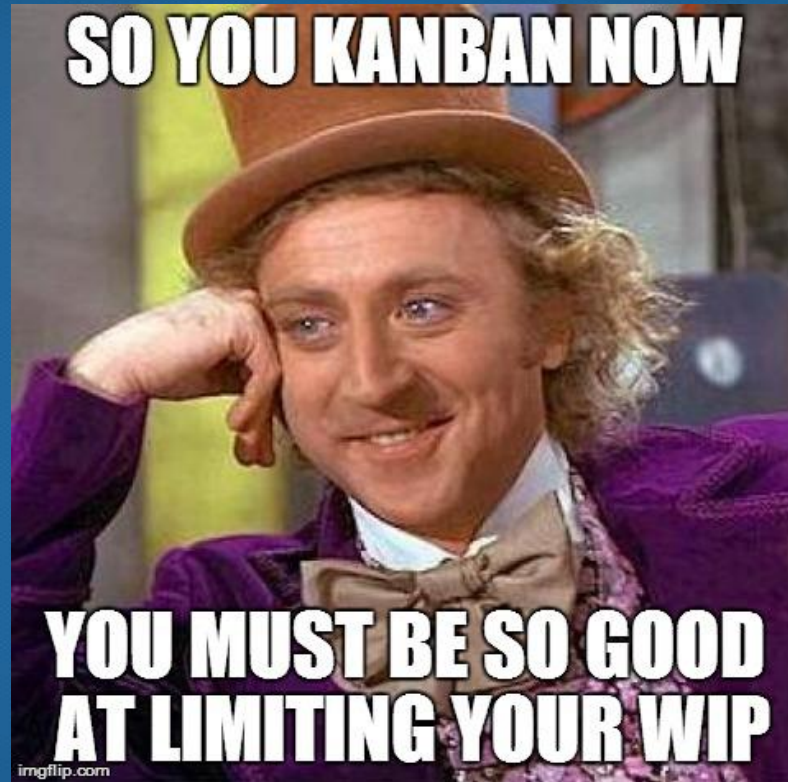








Smooth sailing from here on out, right?



# Tips and Dragons



# 3 Classifications of WIP

- Personal WIP
- Team WIP / Execution WIP
- Organization WIP / Structural WIP

# Managing Team (Execution) WIP

- Why: To Improve Flow
- Challenges:
  - Variability
  - Constraints
  - Interpersonal Dynamics

# Introducing Limits

Team(Execution) WIP



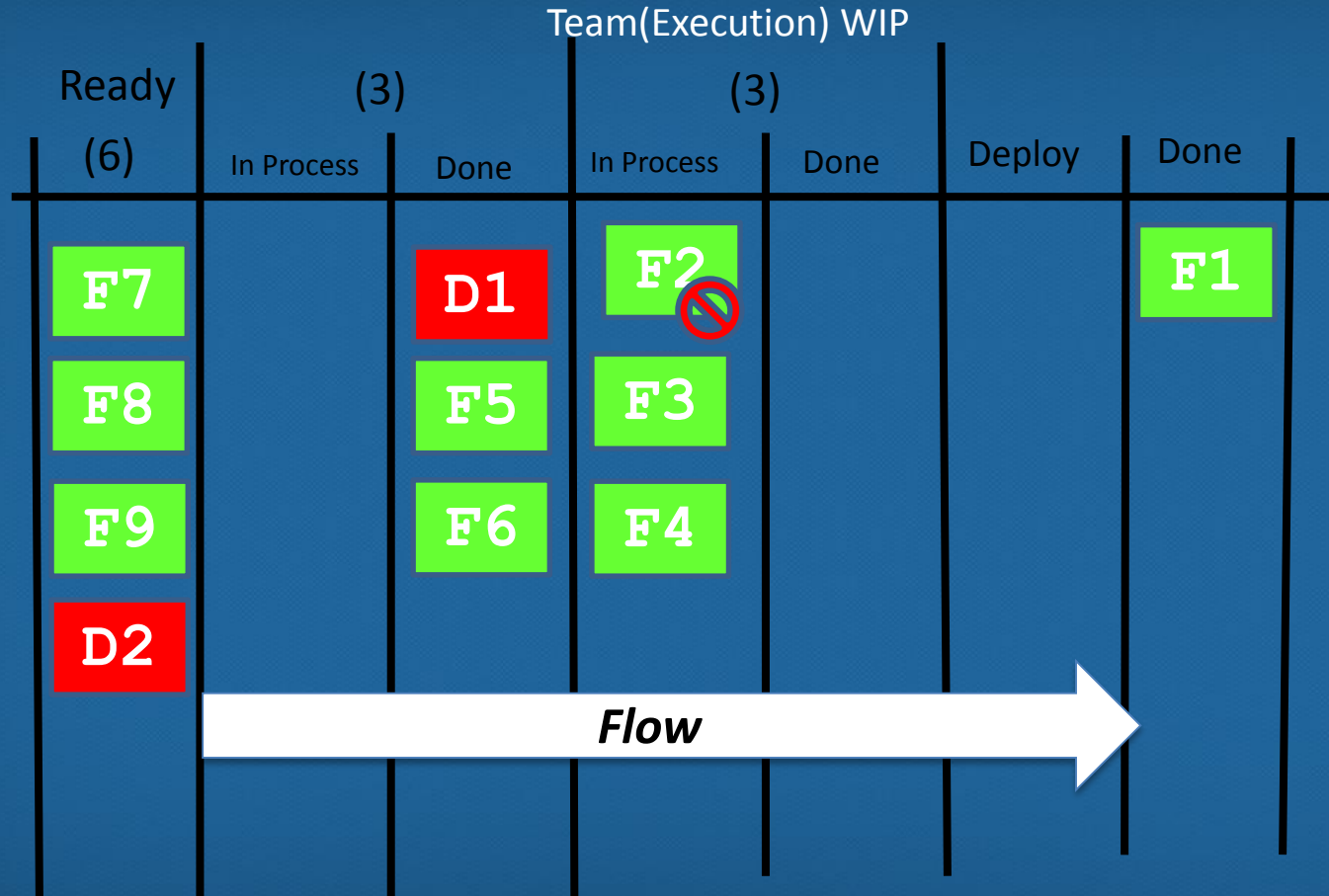
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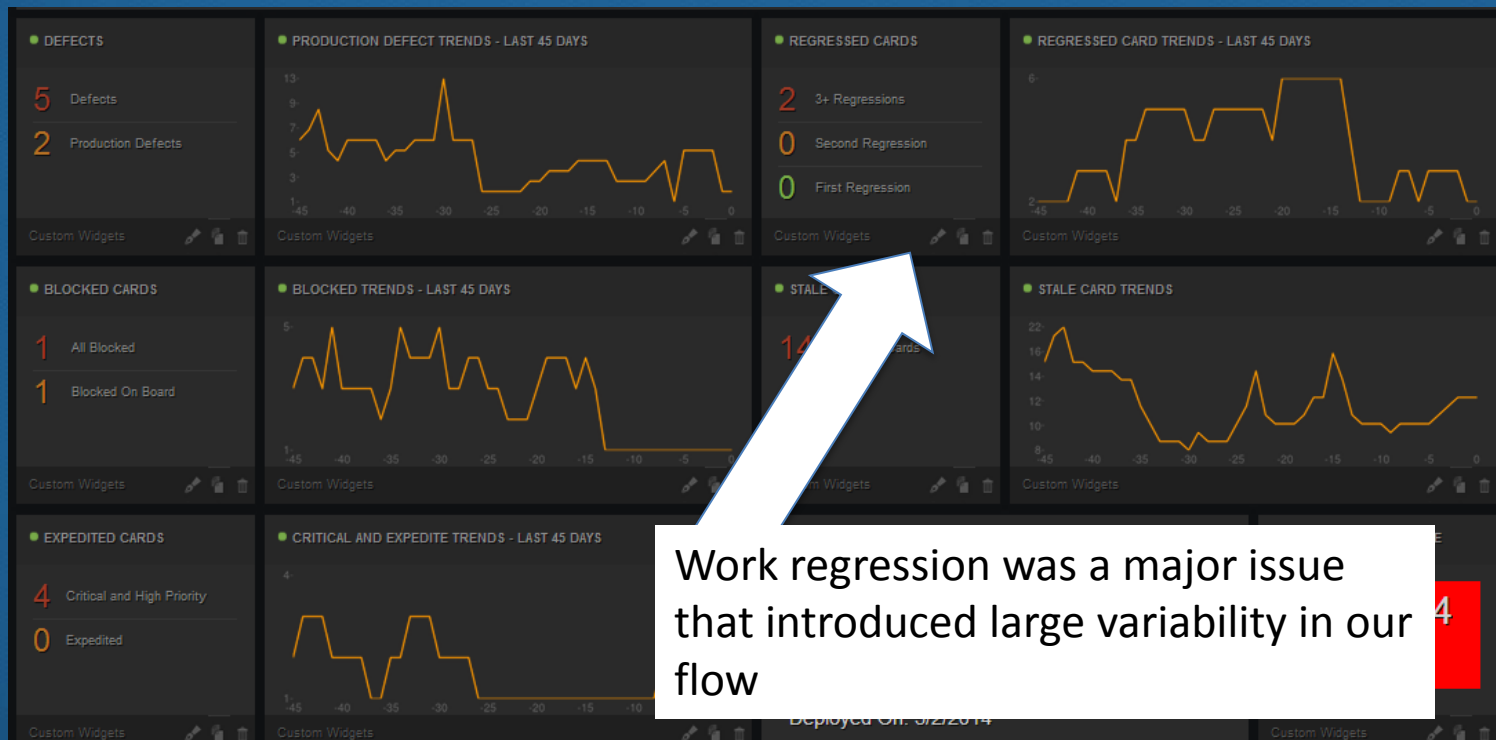
# Handling Variability and Constraint Mobility





# Handling Variability and Constraint Mobility

Team(Execution) WIP



Work regression was a major issue that introduced large variability in our flow





### THE PROTECTOR OF THE CHEESE

Don't even try to move this guy's cheese.



### THE SCOPE CREEPER

This one's motto is "While I'm in here doing this, I might as well do these things, too."



### THE HOARDER

Latches onto and owns as much WIP as possible. Spreads themselves very thin trying to have their hand in too many things.

# Ensuring Adoption

## Team(Execution) WIP

- The secret formula for ensuring WIP management is:

$$P_r = P_t \int \frac{\lambda^2 g_t g_r}{(4\pi)^2 r_1^2 r_2^2} \sigma dV$$

- Actually, there isn't a single formula



### THE "TADA"

Reluctant to report on anything that they're working on until their great reveal: "TaDa!"



### THE SPEED LISTER

Thinks they're the exception to the rule for multi-tasking. Constant motion through a list of ToDos. Everything is in process.



### THE LONE WOLF

Never needs or accepts help from others. Similar to The Hoarder but tends to want to control a few things very tightly.

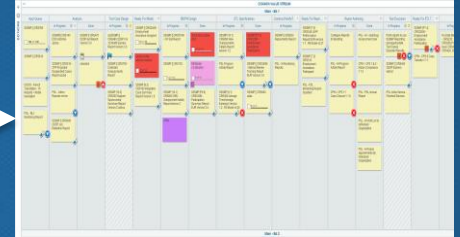
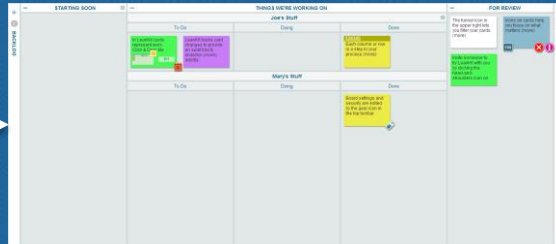
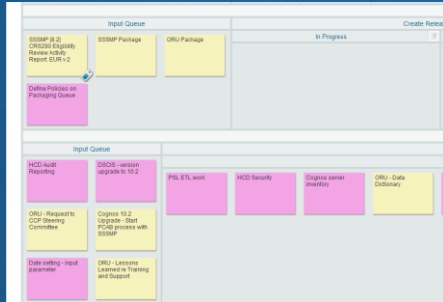
# Scaling WIP Limits

Team(Execution) WIP

- What are things to look out for?
- Horizontal Scaling across a value stream
- Vertical Scaling across higher levels of abstraction

# Across the value stream...

Team(Execution) WIP



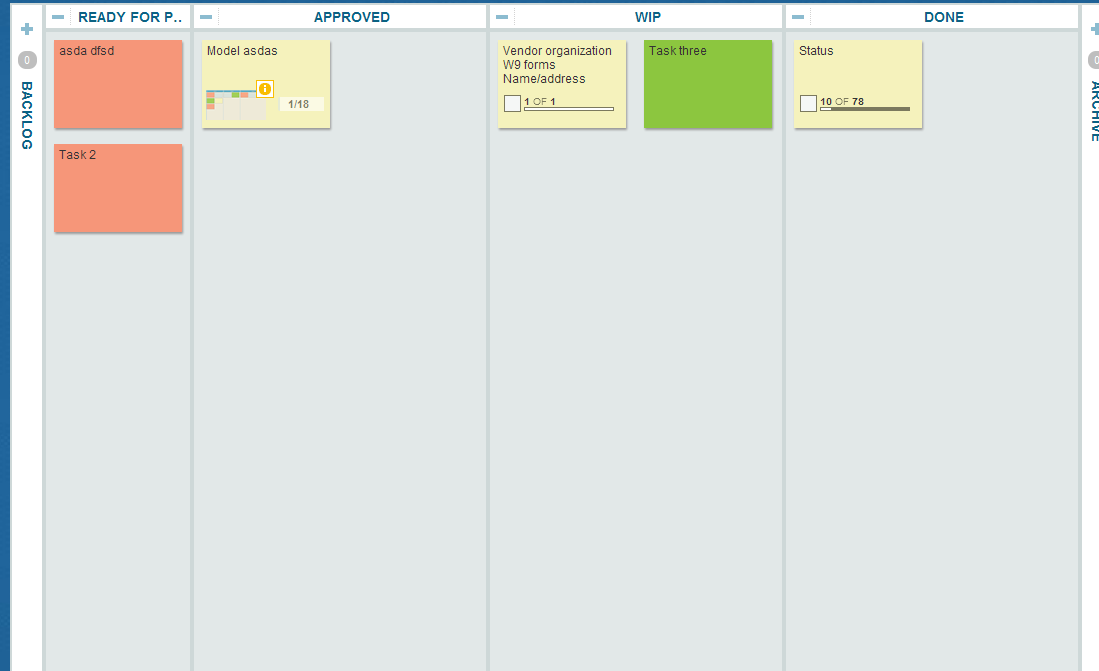
# WIP Dispersion (aka WIP Sprawl)

Team(Execution) WIP



# WIP Dispersion Examples

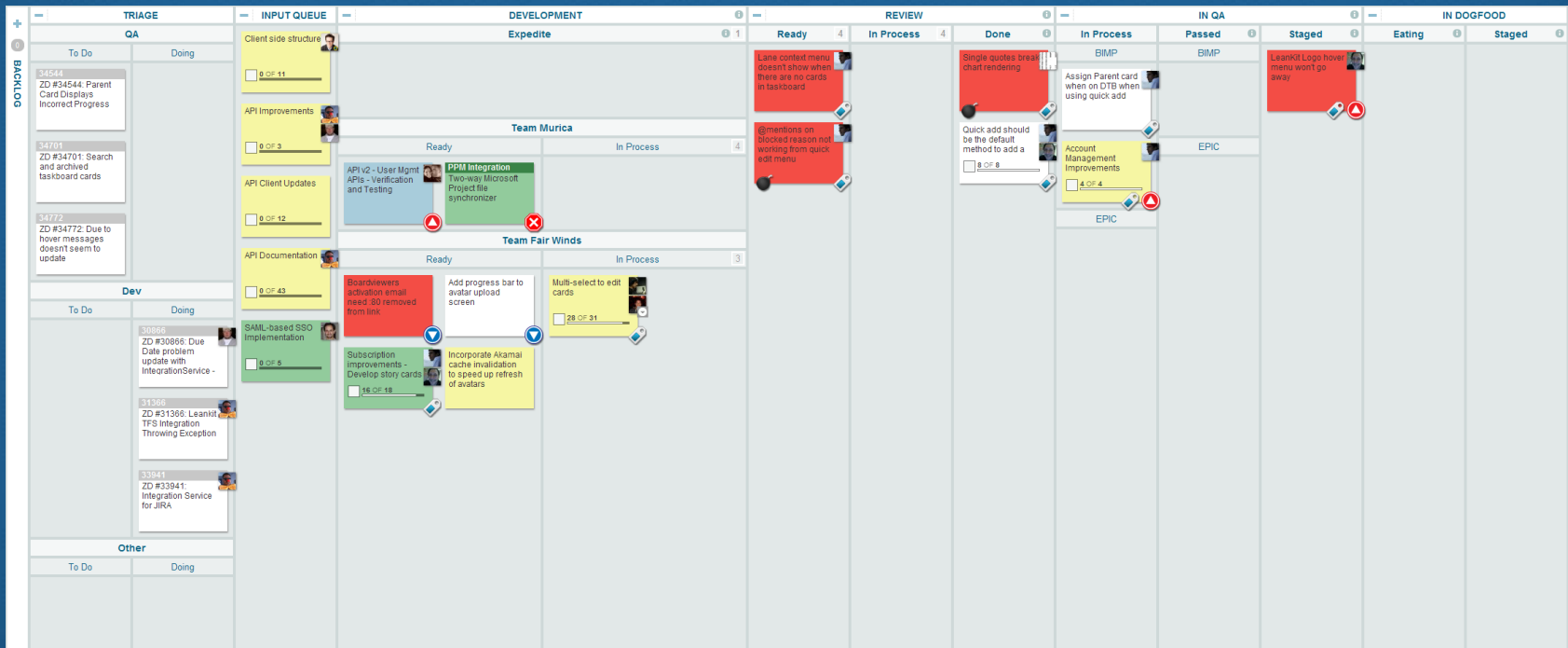
Team(Execution) WIP





# WIP Dispersion Examples

Team(Execution) WIP





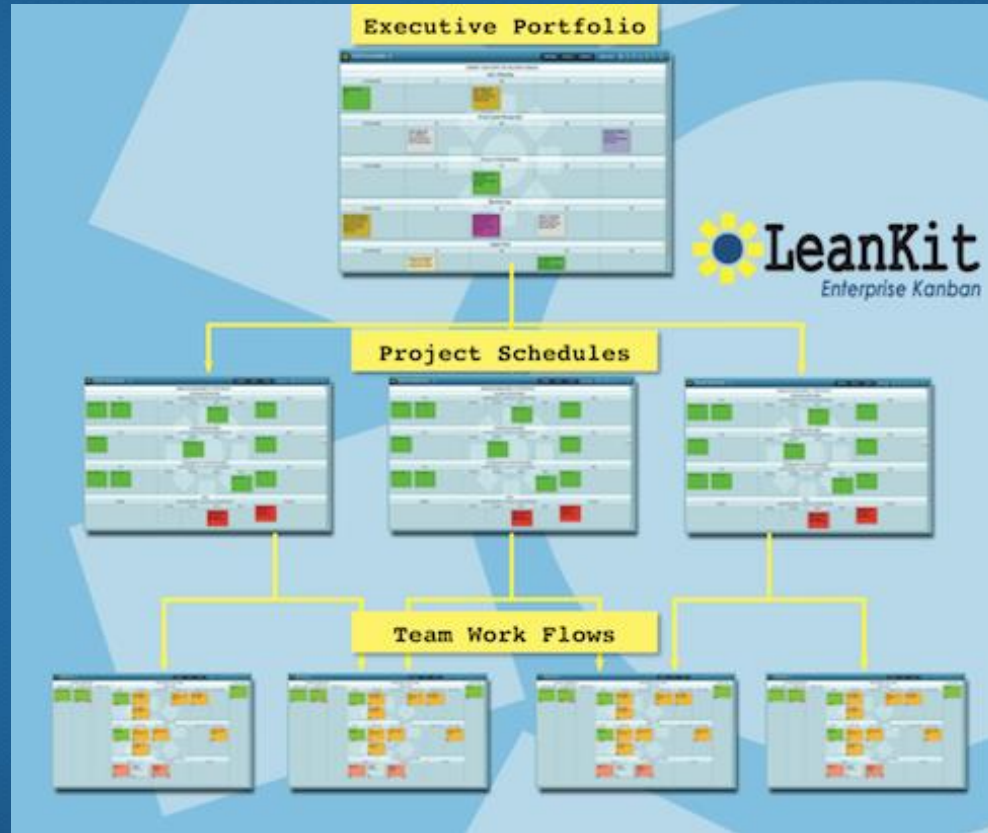
# WIP Dispersion Examples

Team(Execution) WIP



# What to do?

Team(Execution) WIP





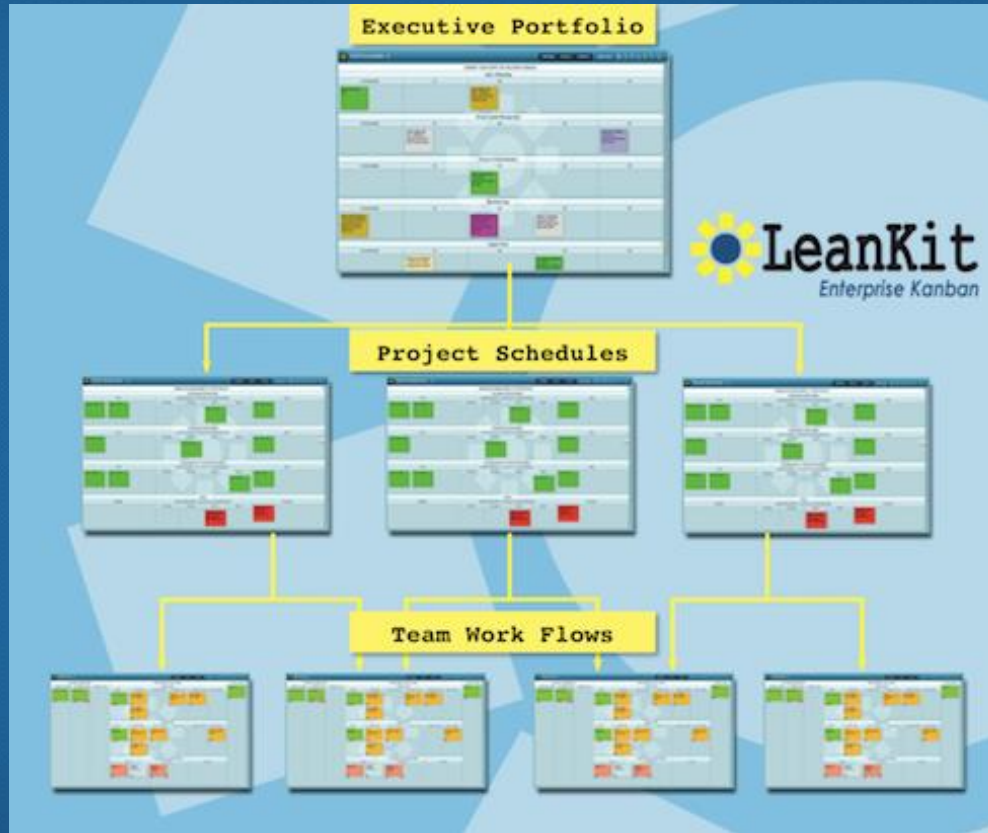
So you got your execution WIP under control, time to relax

# Managing Organizational (Structural) WIP Limits

- Why: Clear Focus, Align Strategy with Execution
- To Make It Work
  - Maintain focus by limiting your options
  - Systems Thinking (top to bottom, bottom to top)
  - Diligently monitor for hidden WIP and WIP capacity violations

# So what do this really mean?

Let's look at an example





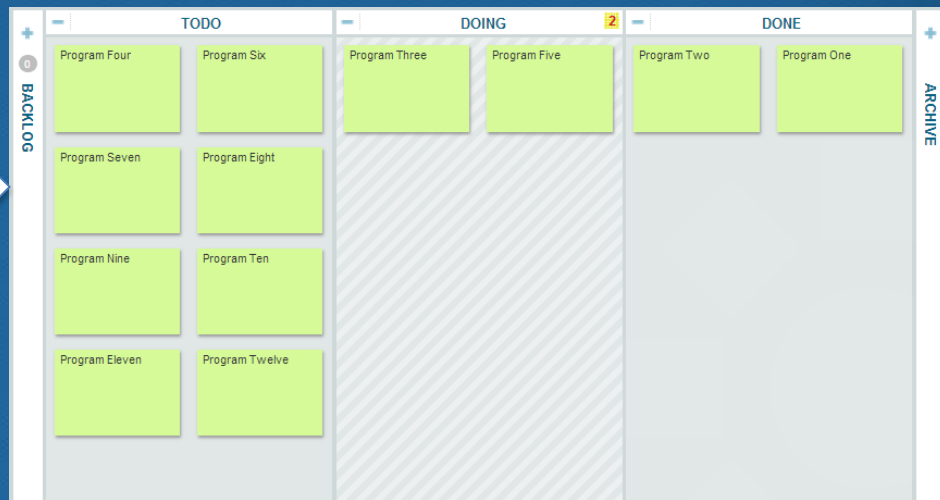
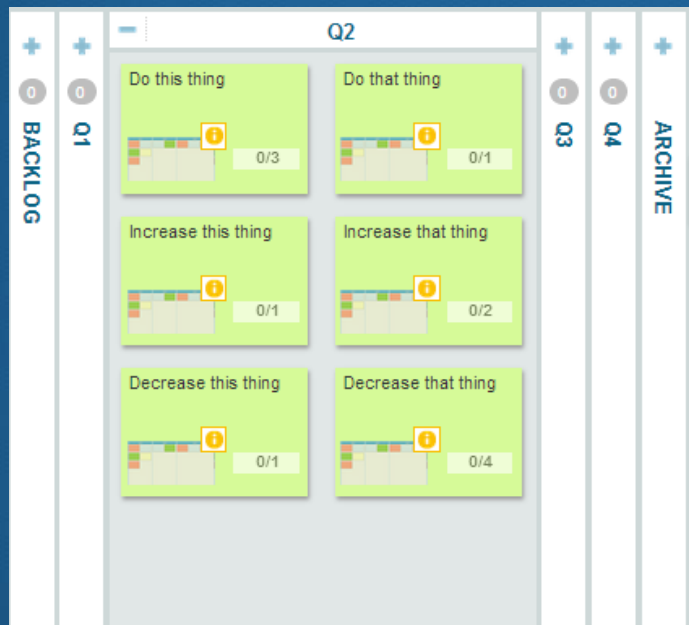




# A change of perspective?

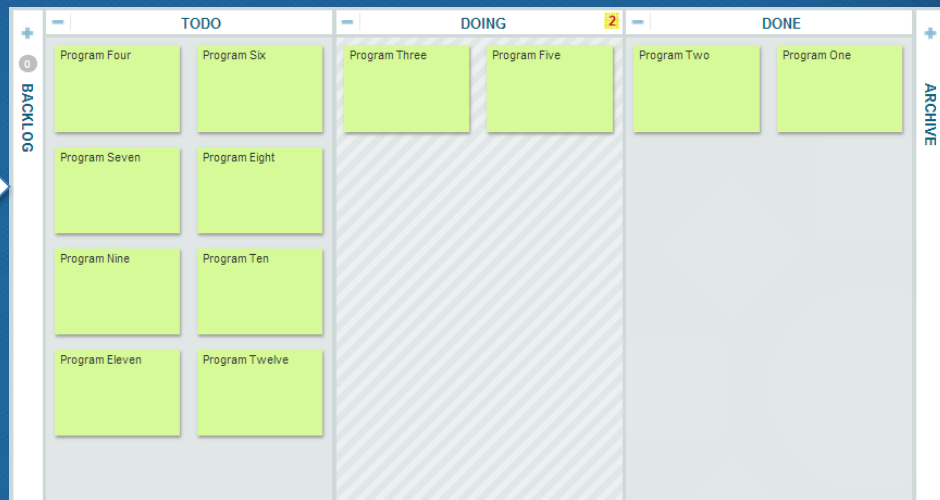
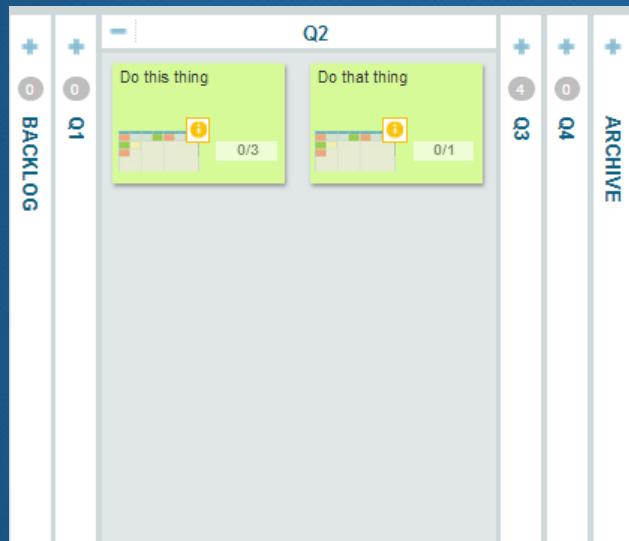


# Look out: Strategic Bloat



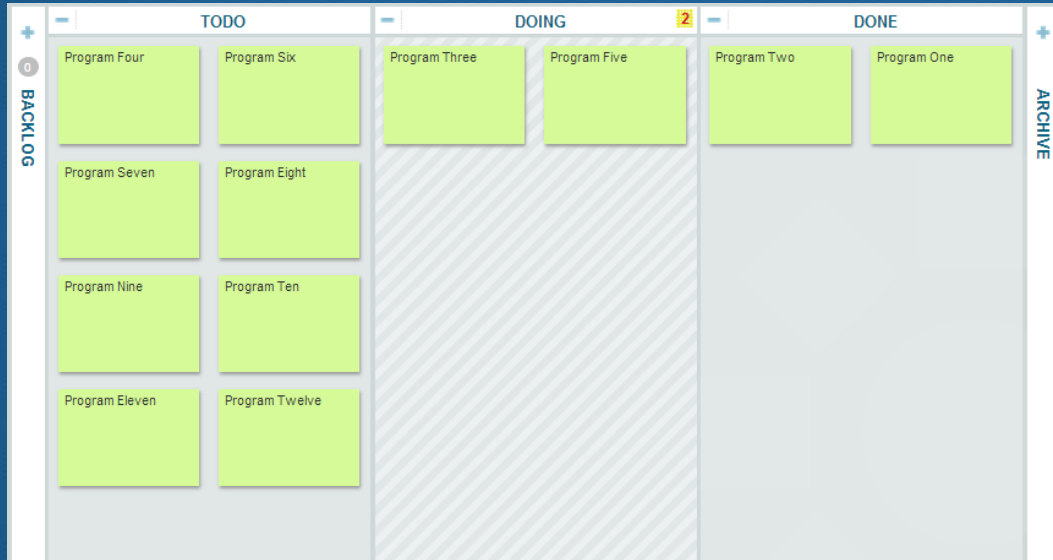
**Cycle Time = 6 weeks**

# Look out: Internal Distractions



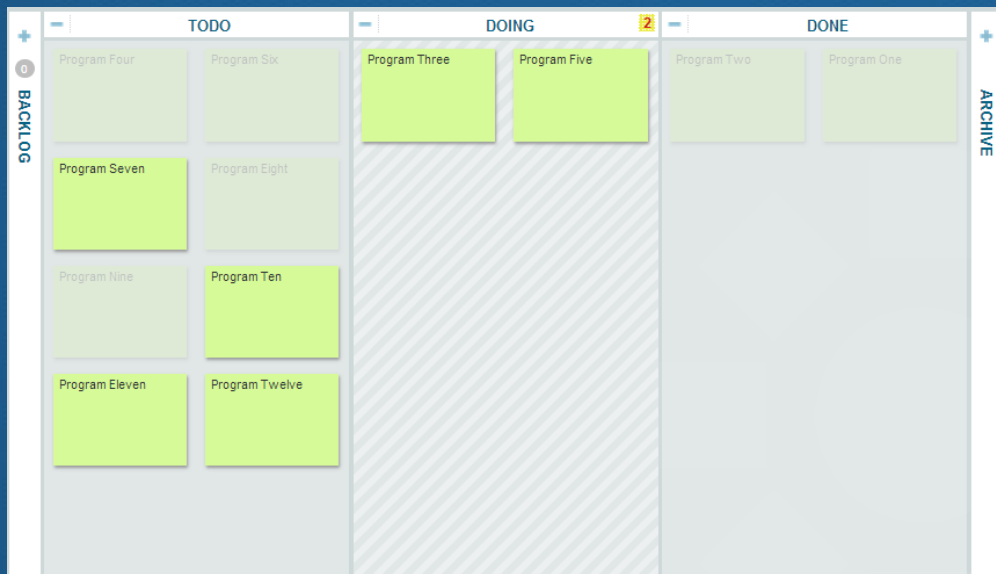
**Cycle Time = 6 weeks**

# Look out: Internal Distractions



**Cycle Time = 6 weeks**

# Look out: Internal Distractions



Cycle Time = 6 weeks



**Filters** ✕

Off

Dim

Hide

Reset All

Parent Cards ✓

HIDE ALL | SHOW ALL

Not Assigned

Decrease that thing

Decrease this thing

Do that thing

Do this thing

Increase that thing

Increase this thing

Card Type

Priorities

# Closing Points

- Managing WIP is difficult
- It takes a lot of dedication and commitment
- Perfection is the enemy of progress
- Organization that stick to it become hyper-productive



# YOUR QUESTIONS ANSWERED

# Operational Topics

- Should only "in progress" lanes should count on towards your WIP Limit?
- How do you limit WIP when there are lots of dependencies between teams?

# Situational Topics

- If developers have WIP limits, what will they do while they wait for QA to finish testing?
- How useful are WIP limits when you follow a Scrum model?

# Communication Topics

- How to convey WIP limits to executive management to prevent overscheduling?
- What to do when managers are the biggest WIP offenders, causing bottlenecks and delays?

# Next Steps

- Keep Persevering!
  - Managing your WIP IS hard, but the benefits are worth it.
- Learning Resources
  - Link to the complete WIP limits blog series
  - Kanban Roadmap

# Thank you!