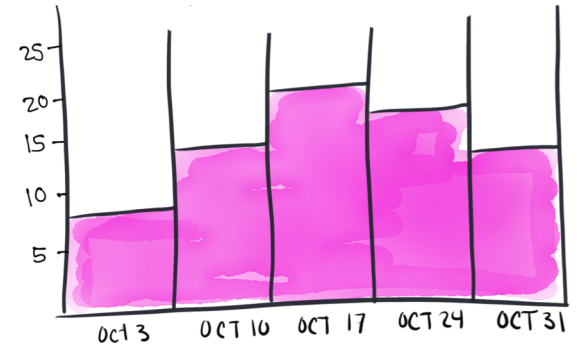
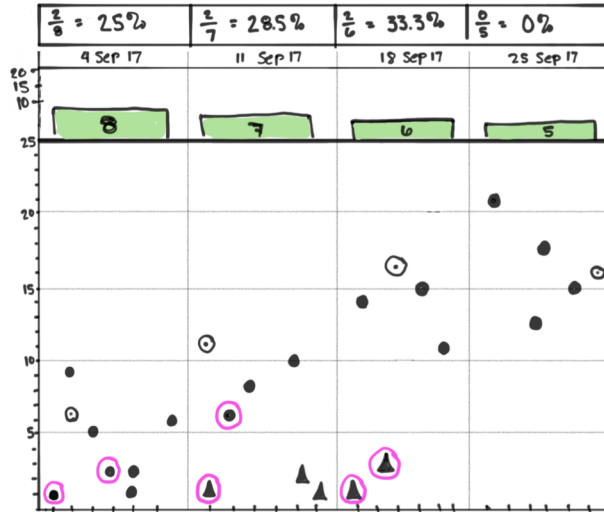
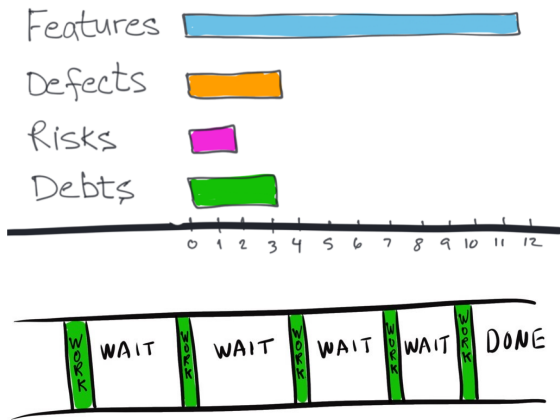


Making Better Business Decisions with Flow Metrics



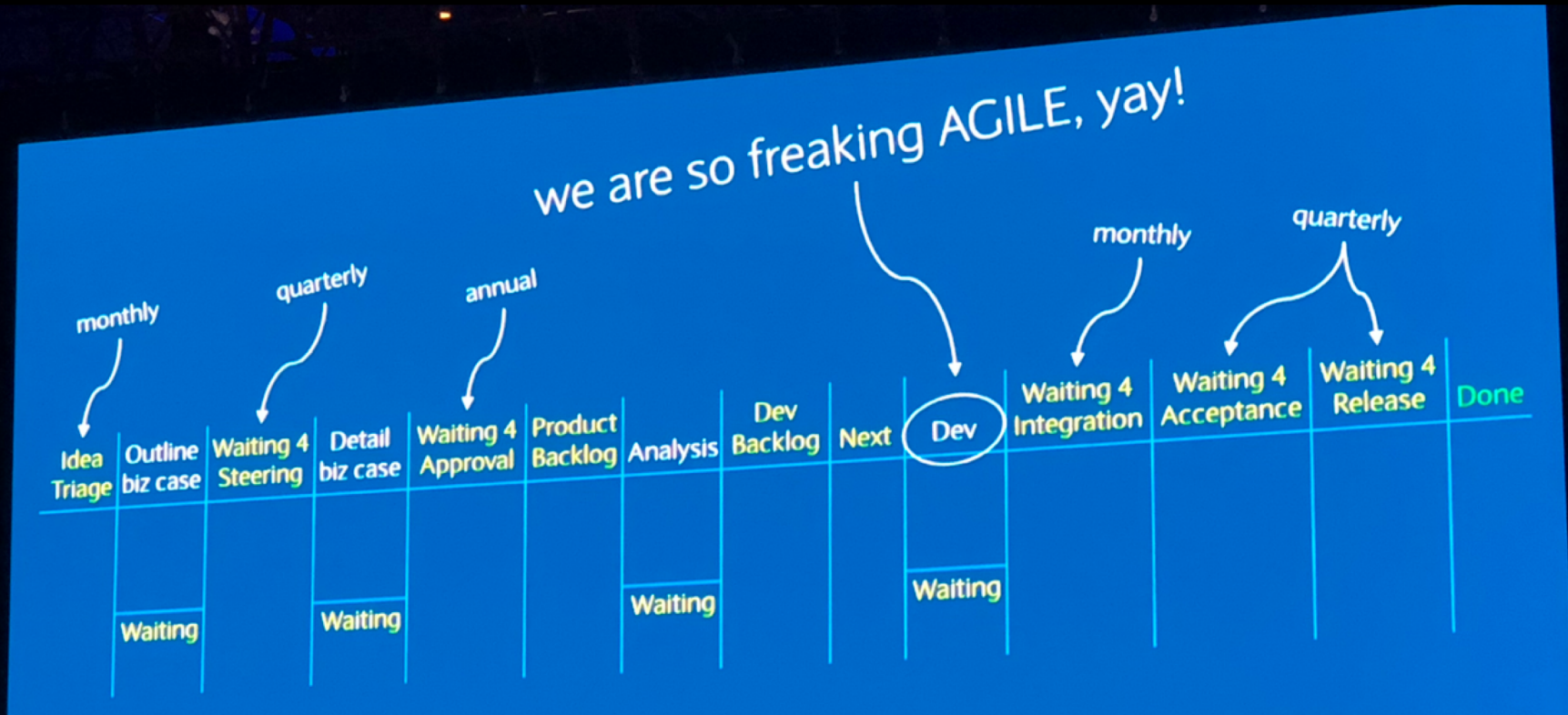
Dominica DeGrandis, Director Digital Transformation
Author of Making Work Visible: Exposing Time Theft



WHAT'S THE POINT?

- Few compelling sets of data to visualize at biz level
- Delivering value to customers quickly requires fast, smooth flow of work
- Flow metrics help you improve business decisions

Barclays' Value Stream

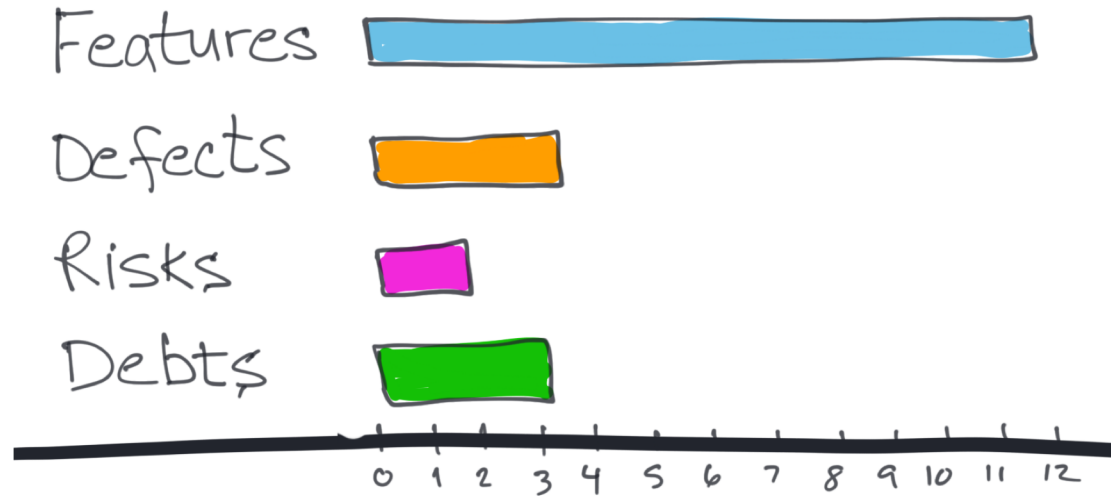


5 FLOW METRICS:

Why, How, + considerations

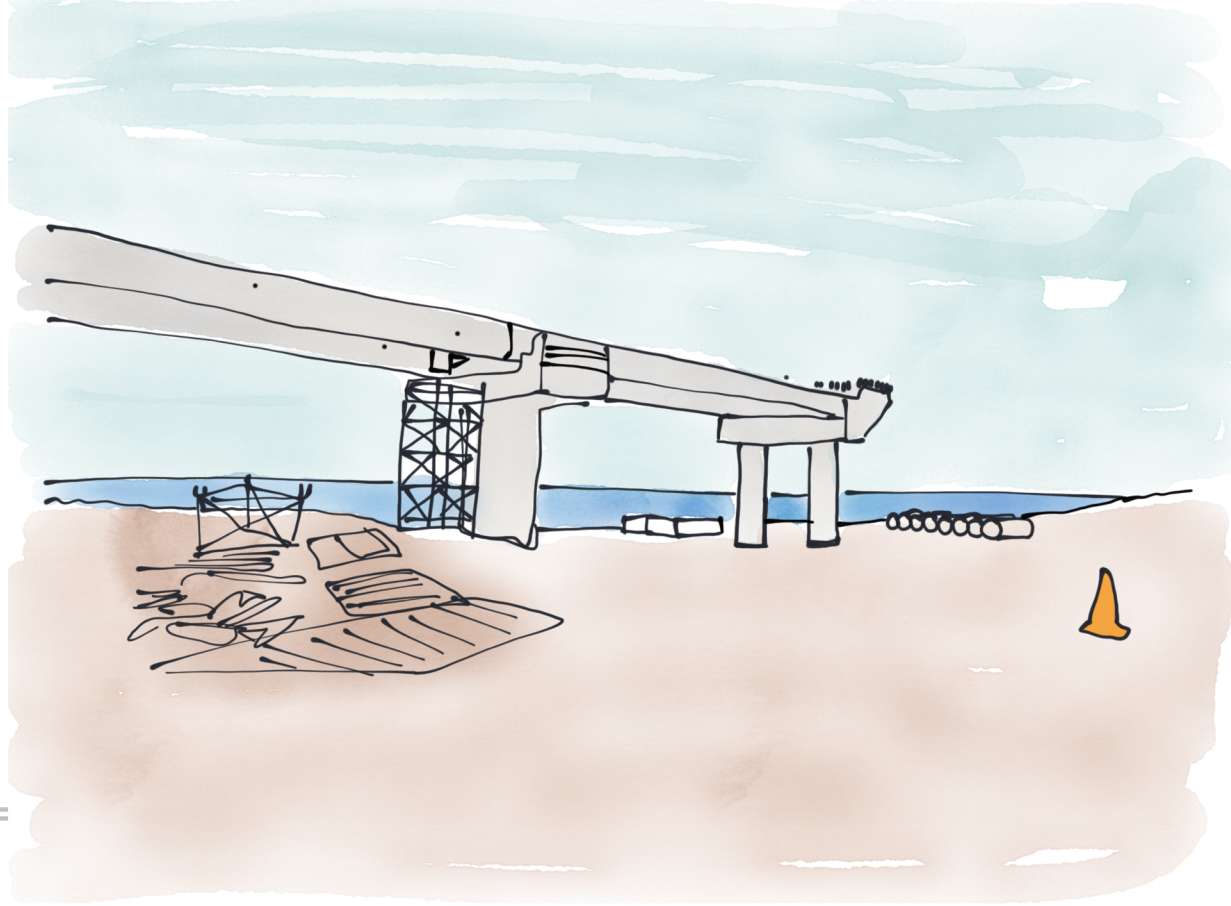
- ❖ Flow Time: A measure of speed
- ❖ Flow Velocity: A measure of throughput
- ❖ Flow Distribution: A measure to see tradeoffs
- ❖ Flow Load: Amount of Work-in-Progress (WIP)
- ❖ Flow Efficiency: Work vs. wait time ratio

Flow Distribution: A measure to see tradeoffs



Make tradeoffs clear – help set strategic direction

NEGLECTED WORK



Flow Metrics Exercise



Time: 5 min

Materials:

1. Flow Metrics Data sheet
2. Flow Distribution Chart

Flow Metrics Exercise Data

	Work Item Types	Day Done	Day Approved	Flow time (#days)
1	feature	9-Sep-18	3-Sep-18	6
2	tech debt	9-Sep-18	29-Aug-18	11
3	feature	9-Sep-18	27-Aug-18	13
4	defect	10-Sep-18	1-Sep-18	9
5	feature	10-Sep-18	4-Sep-18	6
6	feature	11-Sep-18	6-Sep-18	5
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15	risk	16-Sep-18	15-Sep-18	1
16	risk	18-Sep-18	18-Sep-18	0
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21	feature	21-Sep-18	9-Sep-18	12
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23	feature	22-Sep-18	8-Sep-18	14
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26	tech debt	23-Sep-18	10-Sep-18	13



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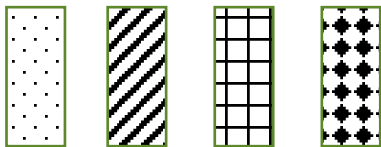
Flow Metrics Exercise



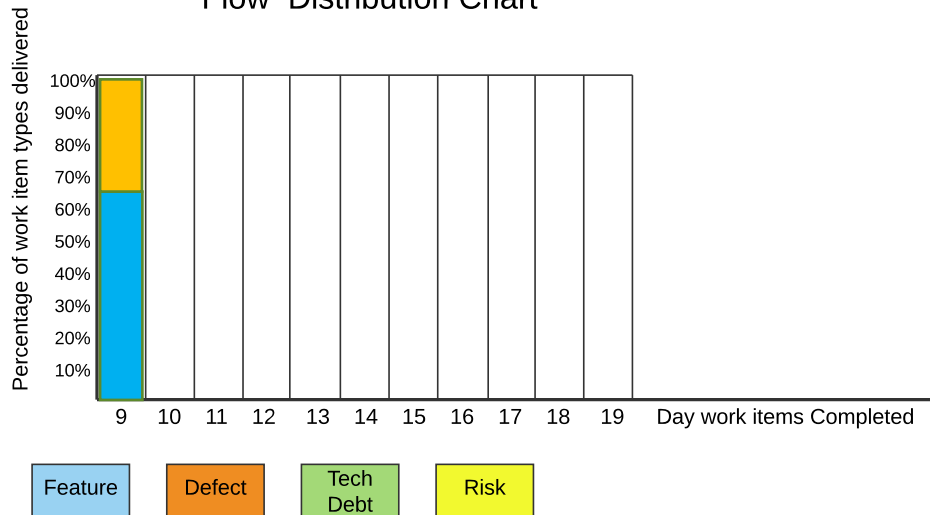
Time: 5 min

Split into groups of 3:

If no colored markers, then be creative with shading: stripes, dots, diagonal lines, etc...



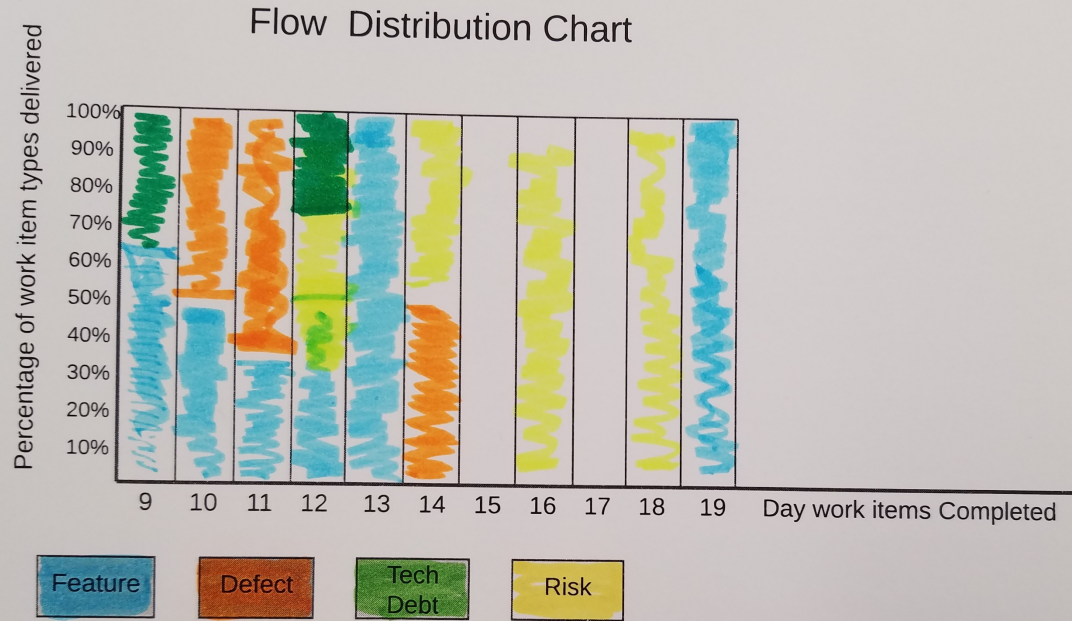
Flow Distribution Chart



Flow Distribution Chart Instructions: For each day, calculate and draw one vertical bar showing the distribution of work item types. Use the same color marker as the color of the work items.

Ex: If one Feature work item and one Defect work item were delivered on Day 9, then 50% of the vertical bar for Day 9 would be blue (feature) and 50% would be orange (defect).
















What story is told based on the outcomes shown in this chart?



Flow Distribution Chart Instructions: For each day, calculate and draw one vertical bar showing the distribution of work item types. Use the same color marker as the color of the work items.

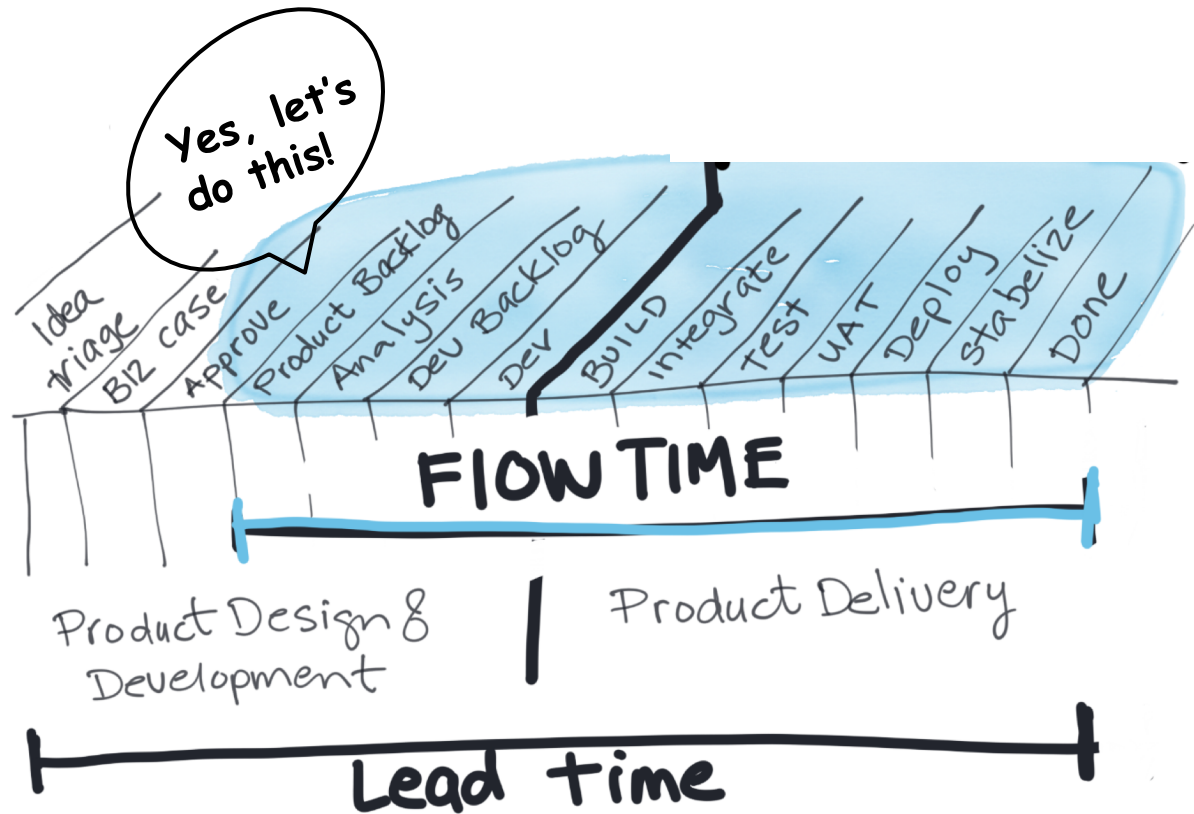
Ex: If one Feature work item and one Defect work item were delivered on Day 9, then 50% of the vertical bar for Day 9 would be blue (feature) and 50% would be orange (defect).

Flow Distribution allocation








WIP limit		Next	Design	Build	Feedback	Deliver	Verify value	value Delivered
(5)	Features							
(5)	Defects							
(1)	Risks							
(3)	Debts							

Flow Time – a measure of speed

Flow Time:
The duration from
when work enters
the value stream to
its completion.



UNPLANNED WORK

	TO DO	DOING	VALIDATE	DONE
UNPLANNED WORK				
PLANNED WORK				

Unplanned Work:

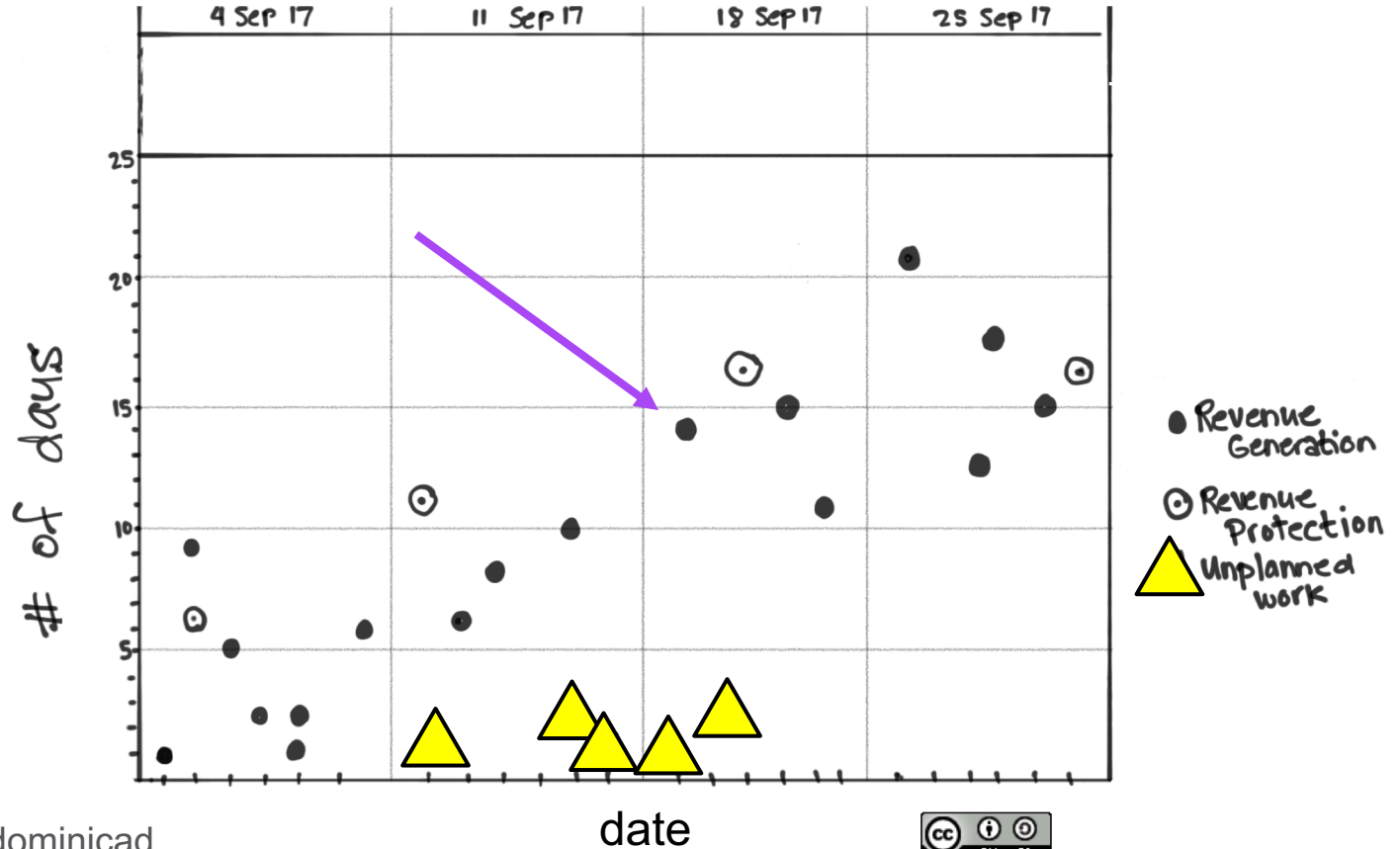
- Delays planned work
- Steals your predictability



The enemy of getting work done is not you're lack of talent - it's being interrupted.

Measuring Flow Time

Unplanned work delays
Planned work



Flow Metrics Exercise



Time: 5 min

Materials:

1. Flow Metrics Data sheet
2. Flow Time Chart

Flow Metrics Exercise Data

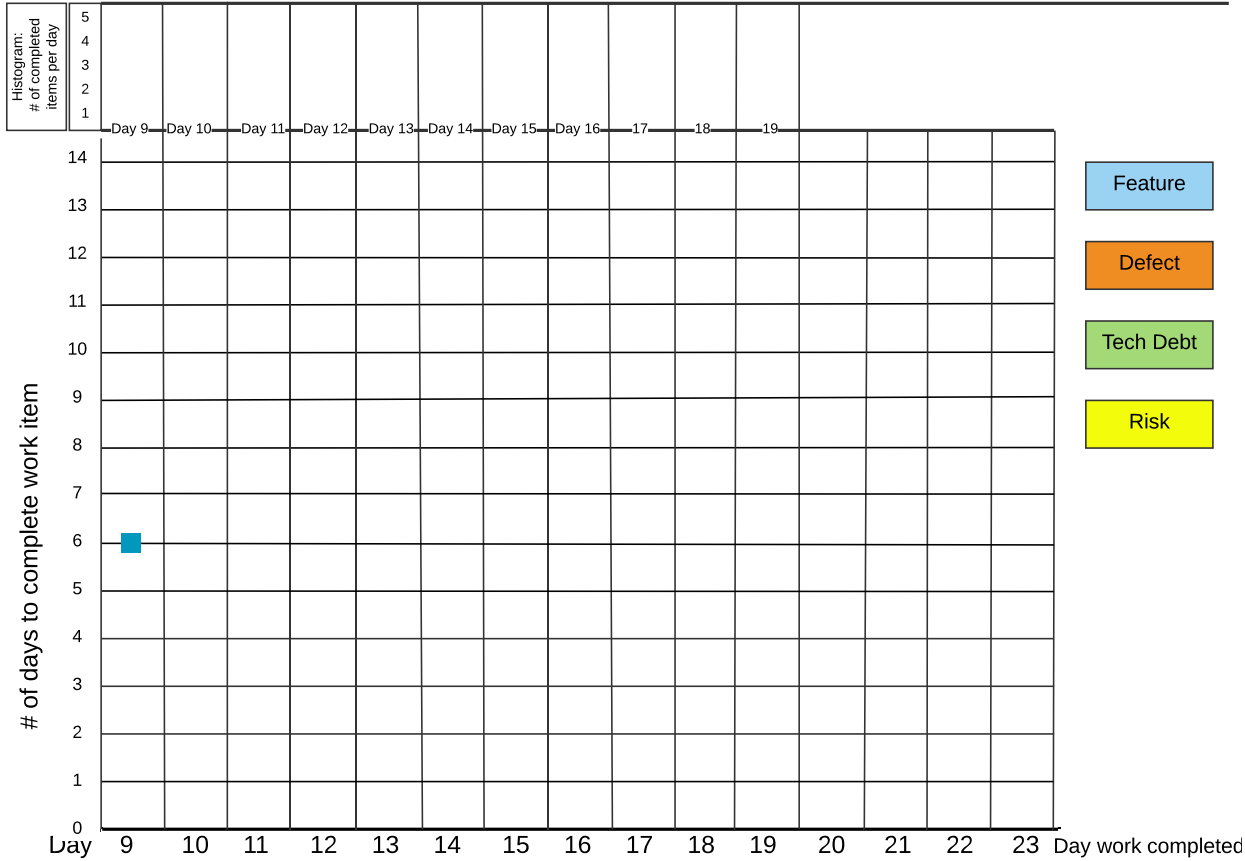
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Dominica DeGrandis
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Flow Time and Flow Velocity (Throughput) Chart



Time: 5 min

Complete just the “Flow Time Chart” Instructions.

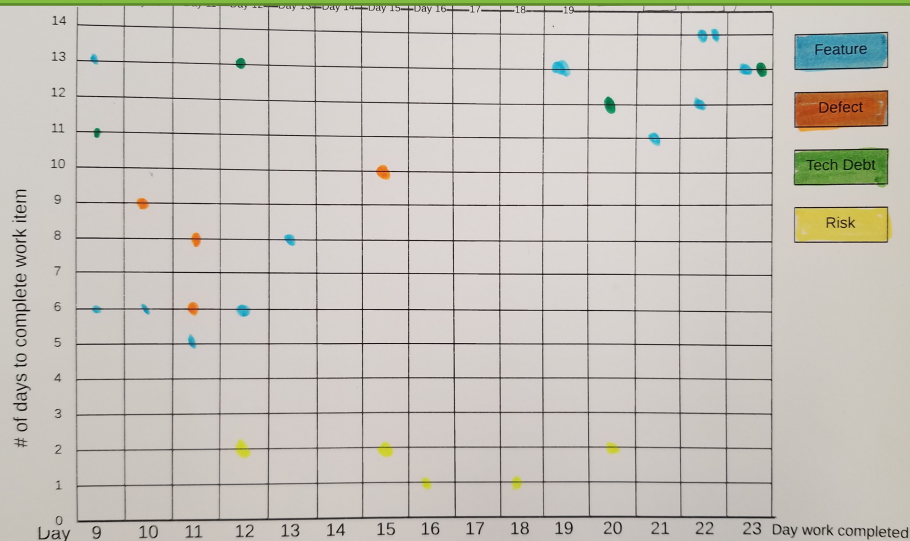
Save the “Flow Velocity Chart” portion for later.

Flow Time Chart Instructions: Plot 1 dot per completed work item, using the same color marker as the color of the work item. Do not connect the dots.

Flow Velocity Chart Instructions: Draw one vertical bar per day (above the Flow Time chart) to create a histogram that shows the number of work items completed for each day.

What story is told based on the outcomes shown in this Flow time chart?

Flow Time Outcomes

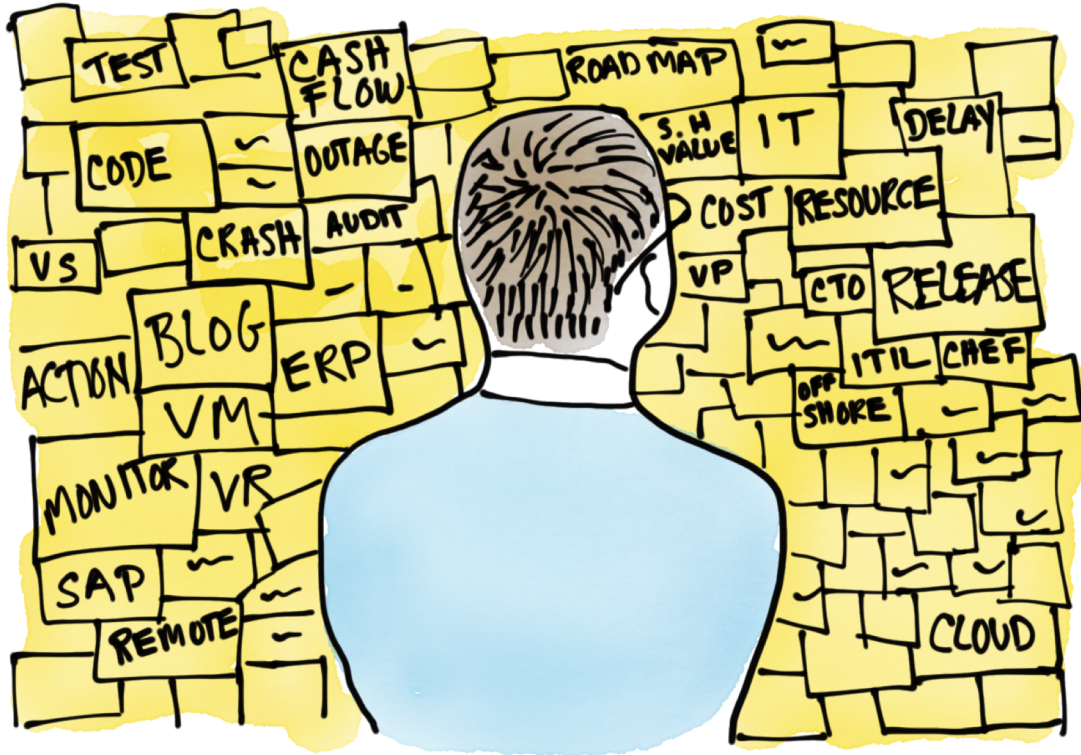


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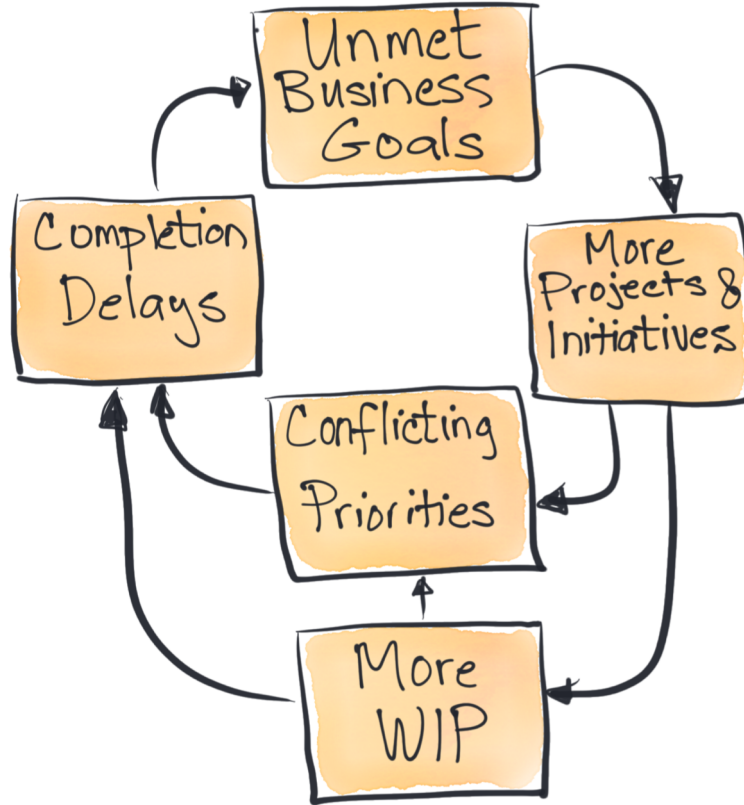
*“Be approximately right instead
of exactly wrong”.* ~John Tukey

Flow Velocity: A measure of throughput



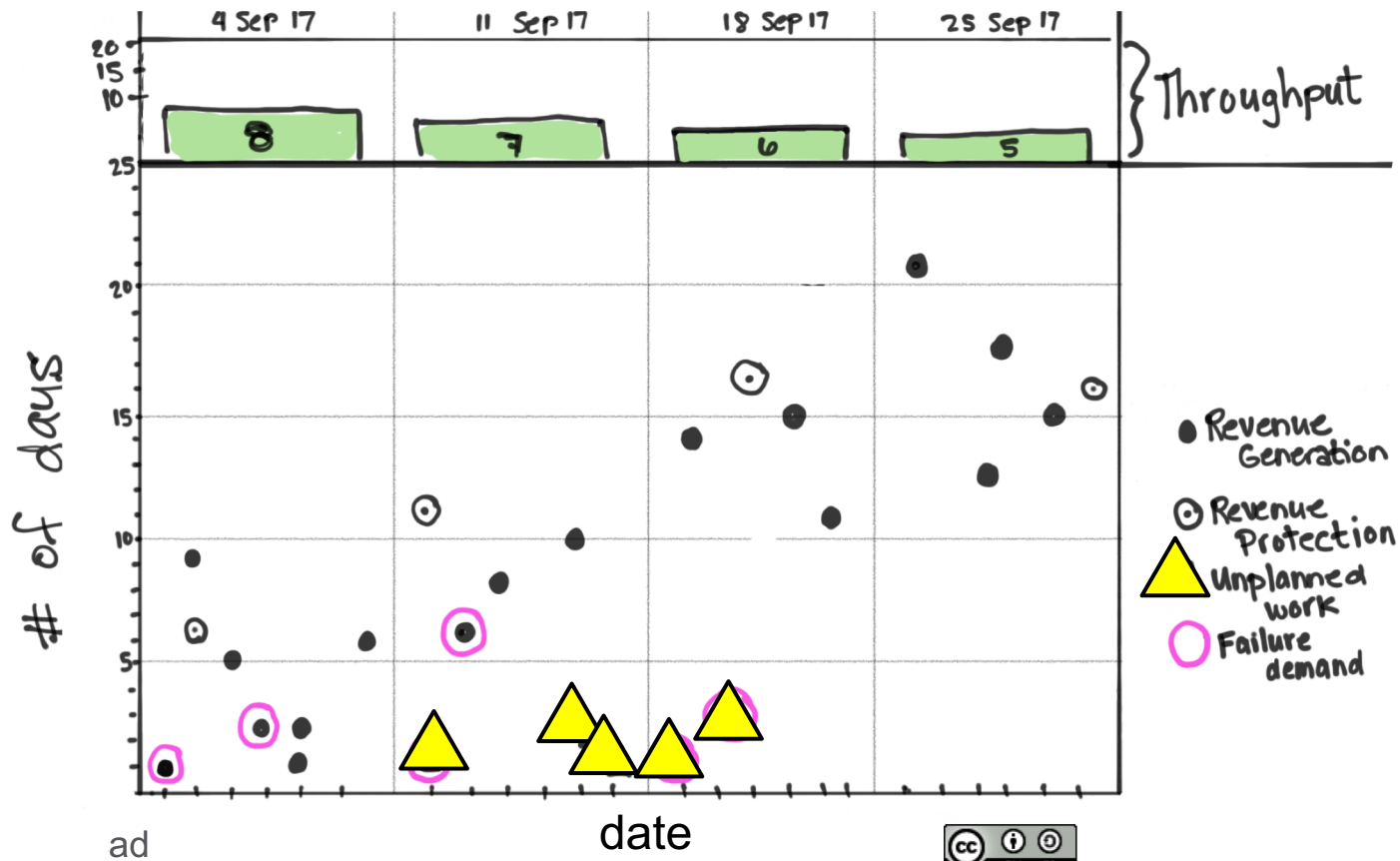
A decision to do one thing is a decision to delay something else.





People have a finite amount of capacity

Measuring Flow Velocity



Flow Metrics Exercise



Time: 3 min

Materials:

1. Flow Metrics Data sheet
2. Flow Velocity Chart

Flow Metrics Exercise Data

	Work Item Types	Day Done	Day Approved	Flow time (#days)
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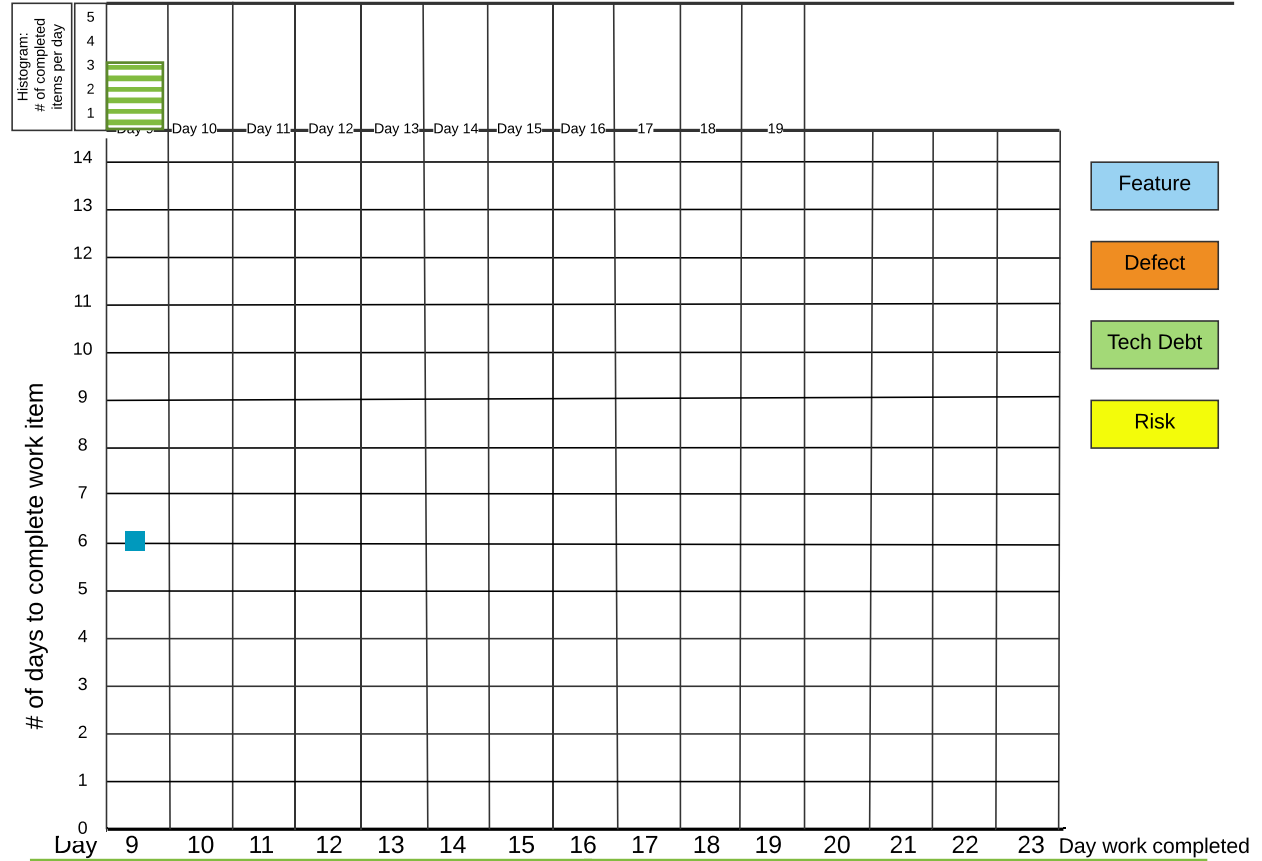
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Dominica DeGrandis
www.ddegrandis.com

Flow Time and Flow Velocity (Throughput) Chart



Time: 3 min

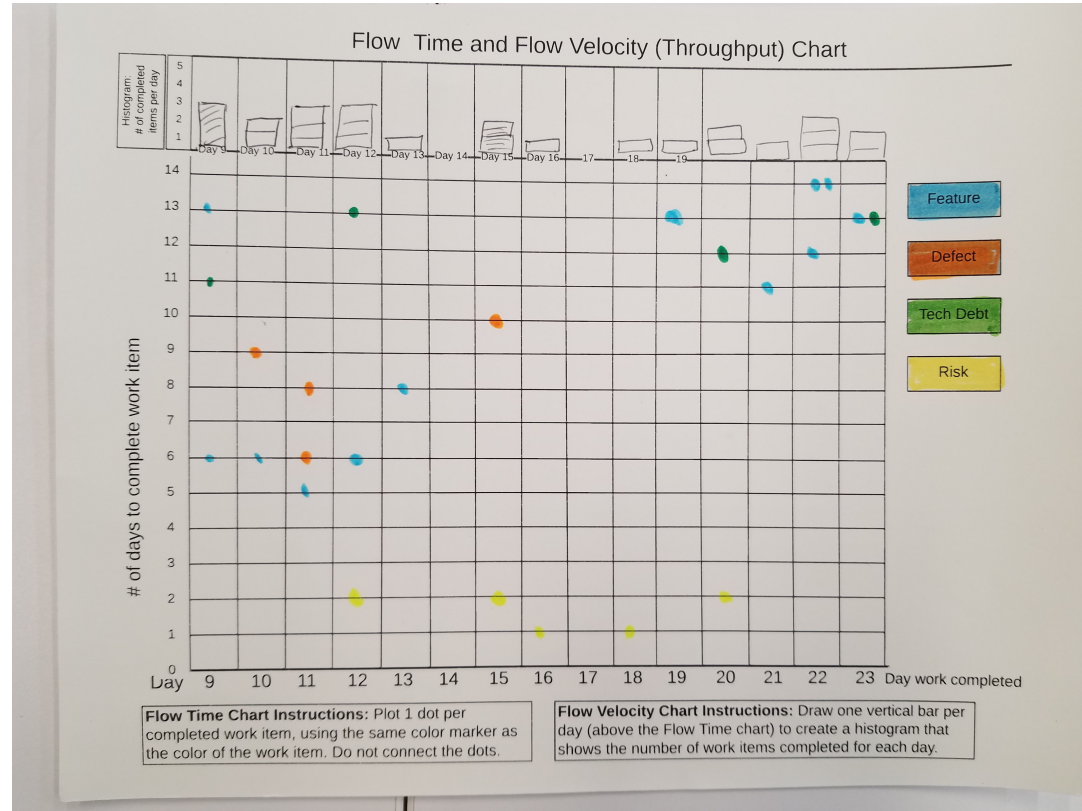


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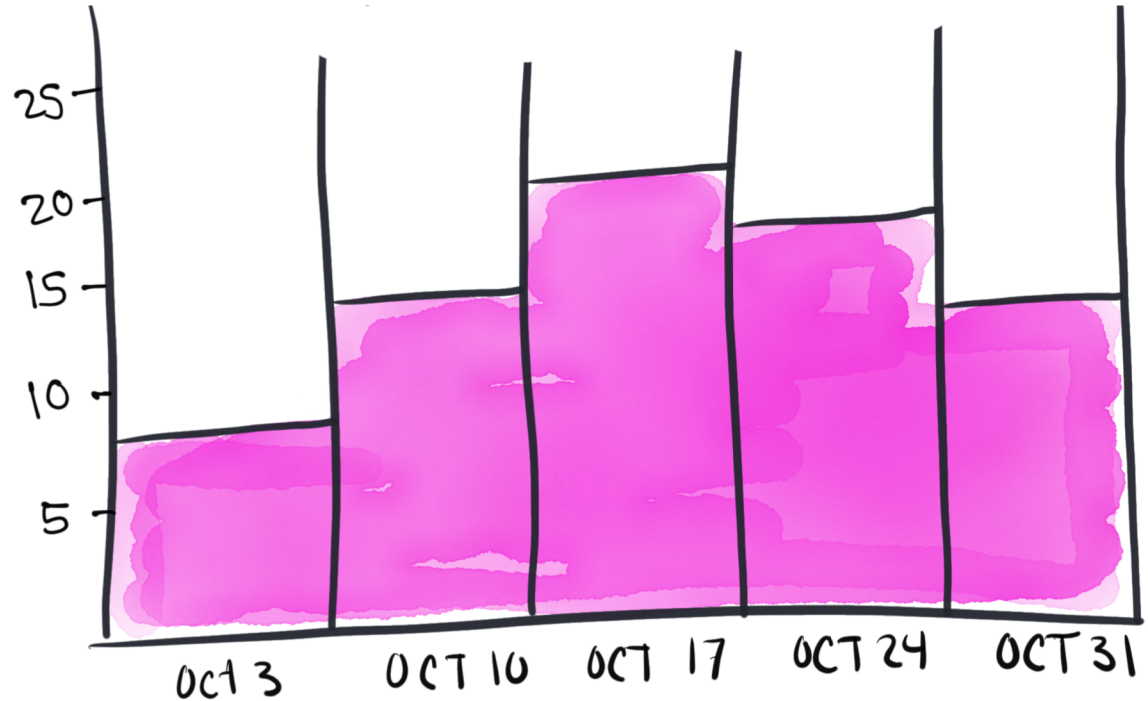
Flow Velocity Outcomes

What story is told based on the outcomes shown in this Flow time chart?



Flow Load: Amount of Work-in-Progress (WIP)

Flow Load:
All the partially
completed work.
All the work-in-
progress (WIP) in
the value stream



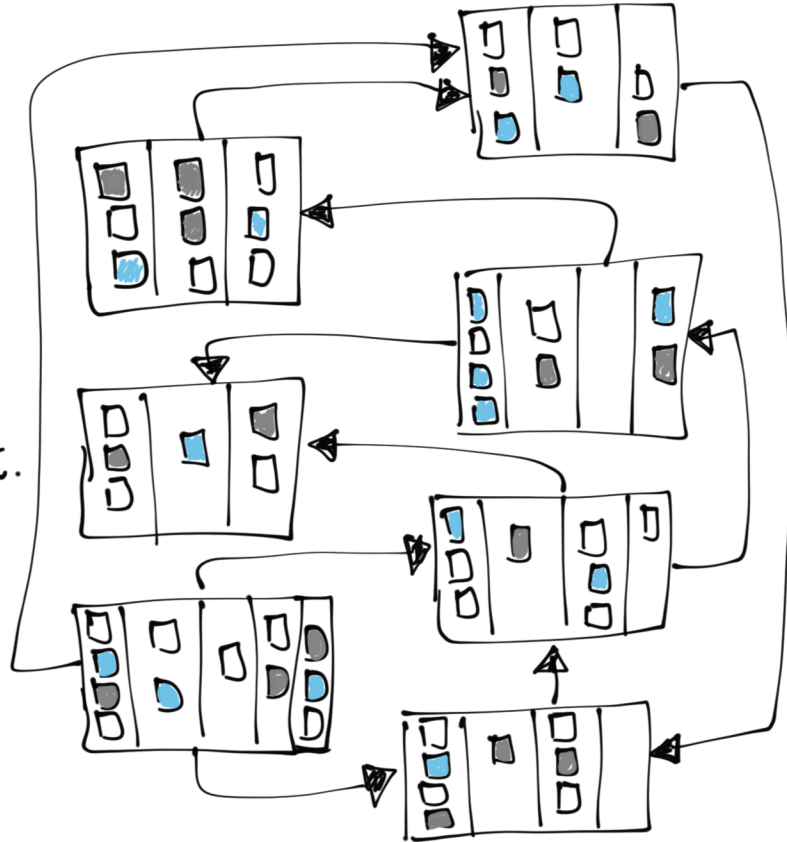
TOO MUCH WIP



Too much WIP
comes from
too much Yes

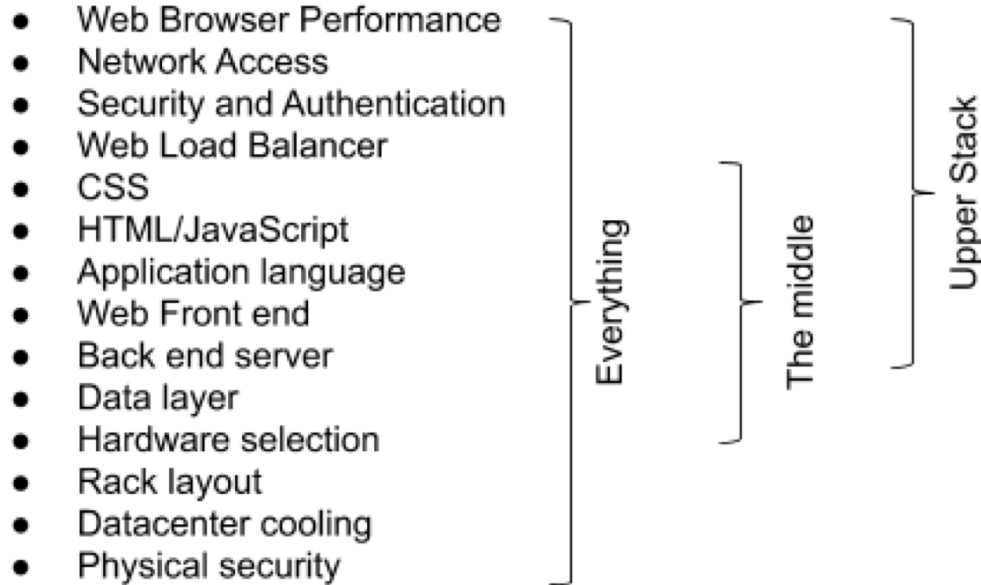
Teams within and across teams

Problem:
All the thieves
across all
these teams.
It's hard to
see the big
picture impact.



The Rise of the Full Stack Engineer

DevOps - you build it you run it - that means you need full stack engineers, right?



StackOverflow survey showing Devs who considered themselves FSE grew from 29% in 2013 to 52% in 2019

The Fallacy of the Full Stack Engineer

- Design overall architecture of the web application.
- Maintain quality and ensure responsiveness of applications.
- Collaborate with the rest of the engineering team to design and launch new features.
- Maintain code integrity and organization.
- Experience working with graphic designers and converting designs to visual elements.
- Understanding/ implementation of security and data protection.
- High experience {{back-end programming languages: PHP, Python, Ruby, Java, .NET, JavaScript}}
- Proficient experience using {{advanced JavaScript libraries and frameworks such as AngularJS, KnockoutJS, BackboneJS, ReactJS, DurandalJS etc.}}.
- Development experience for both mobile and desktop.
- Understanding of server-side languages including {{such-as Jade, EJS, Jinja, etc.}}.
- Experience with cloud message APIs and usage of push notifications.
- Knowledge of code versioning tools {{such as Git, Mercurial or SVN}}.

Costs from Cognitive Overload



- exhaustion
- cynicism
- burnout: lost energy, enthusiasm, & confidence
- lower quality
- depression
- health problems

Maslach Burnout Inventory (MBI)



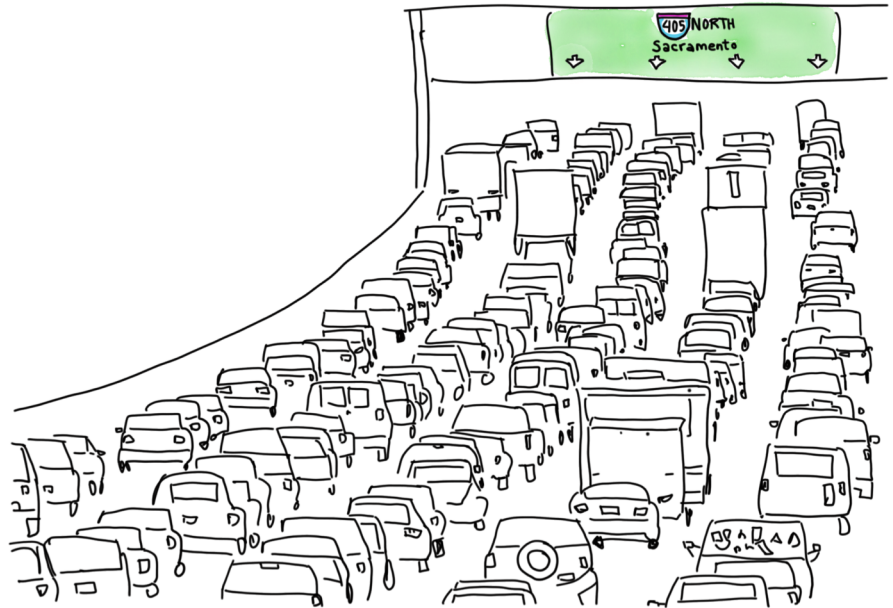
<https://www.youtube.com/watch?v=gRPBkCW0R5E&feature=youtu.be>

<https://www.mindgarden.com/117-maslach-burnout-inventory>

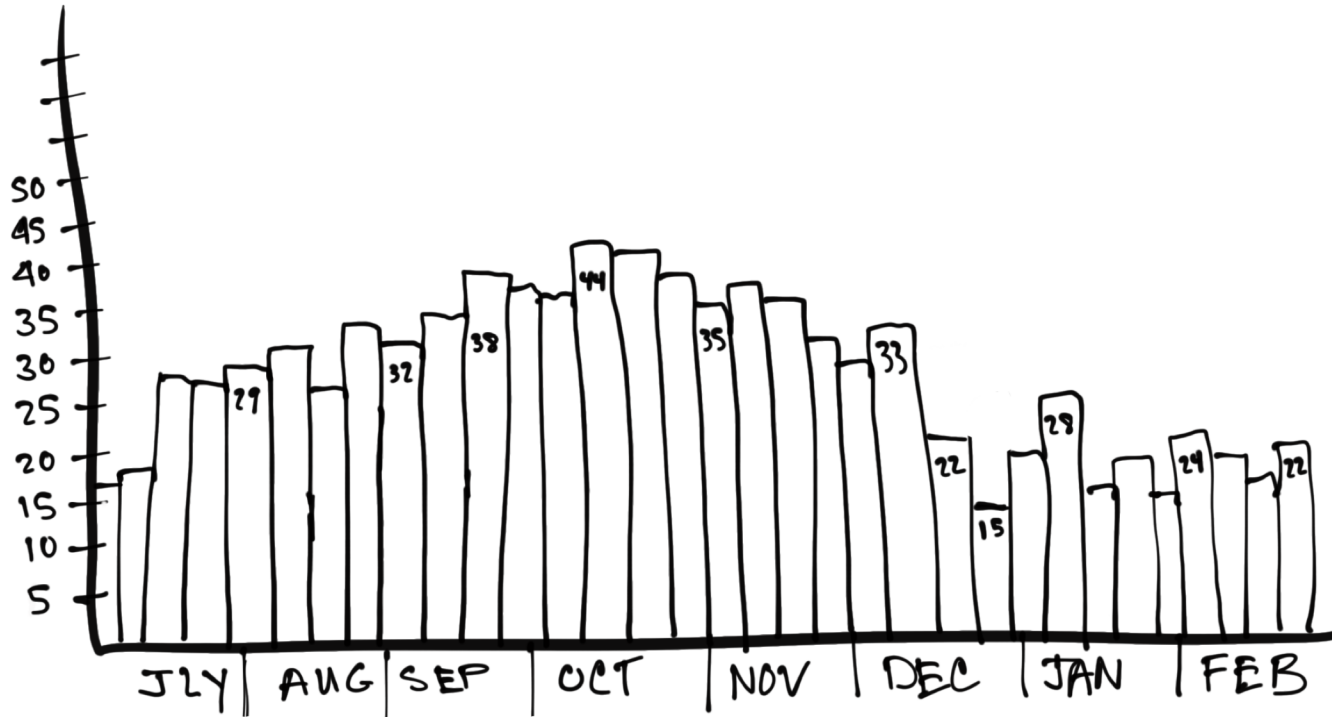
WIP is a leading indicator

Why Work-in-Progress Matters

- WIP is a leading indicator
- The single most important factor that affects wait time is capacity utilization



Flow Load: The WIP report



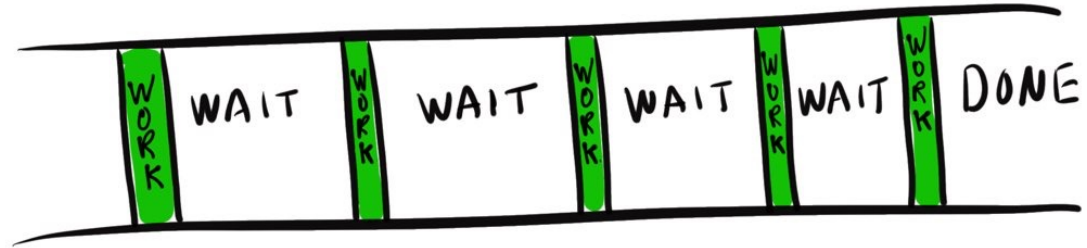
If we have data, let's look at data. If all we have are opinions, let's go with mine."

- Jim Barksdale

Why Flow Efficiency - Expose wait time

Flow Efficiency:

The percentage of time where work is in an active state vs. a wait state.

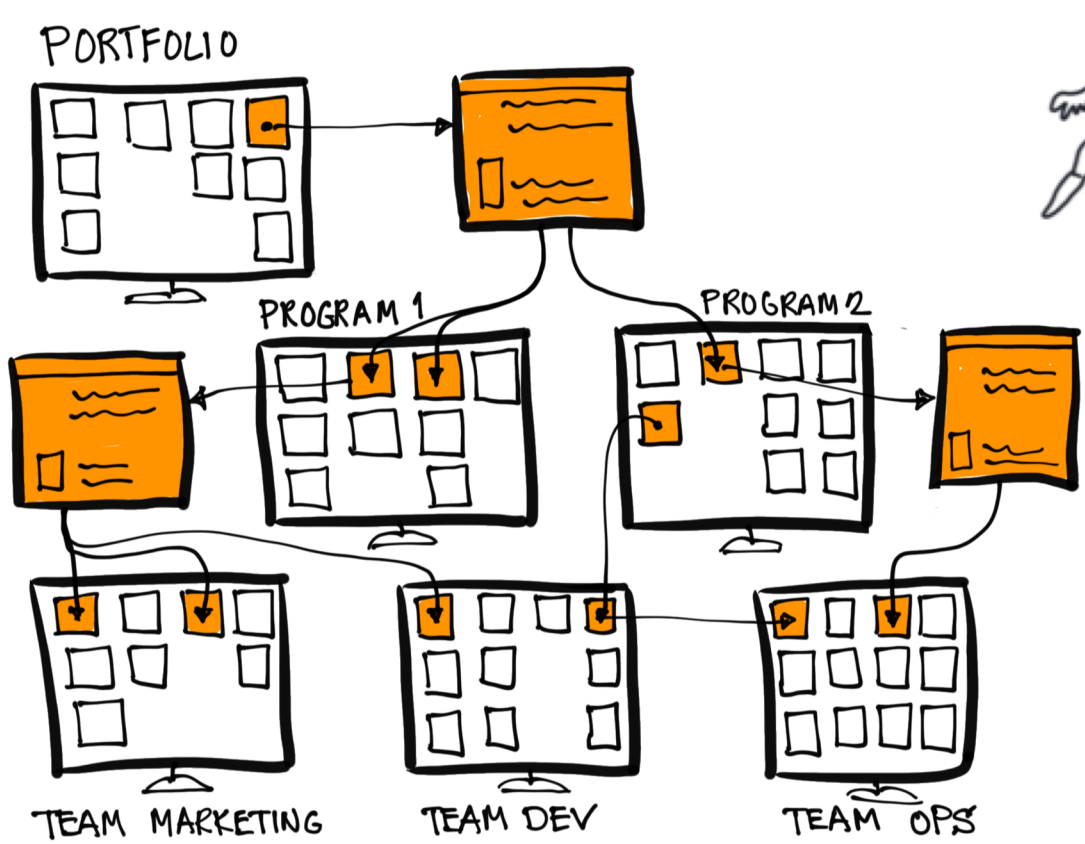


$$\frac{\text{WORK}}{\text{WAIT} + \text{WORK}} (100\%) = \text{FLOW EFFICIENCY}$$

Benefit: Learn how much wait time exists in Value Stream to drive discussion to improve decisions on prioritization, capacity & utilization.

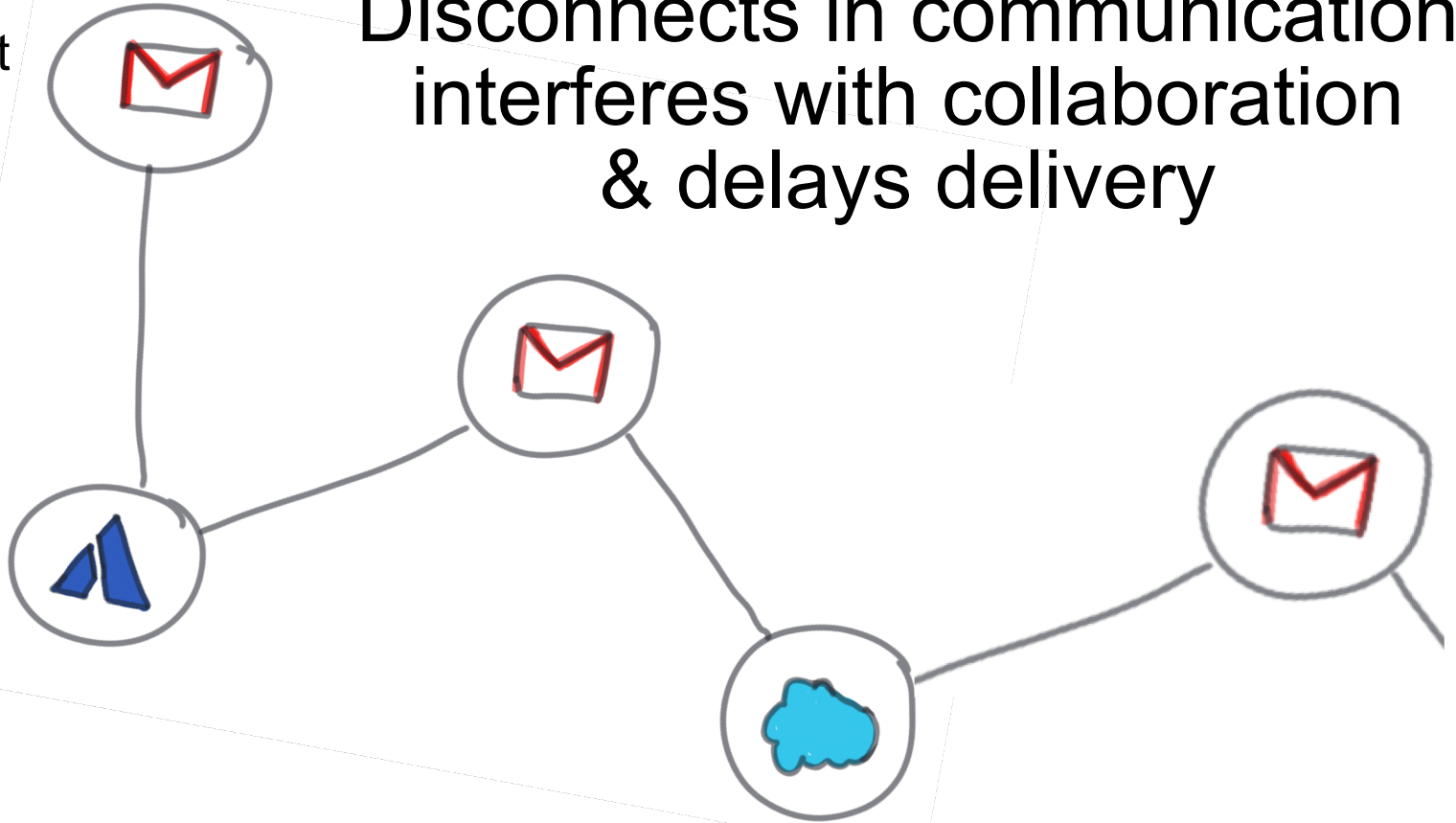
UNKNOWN DEPENDENCIES

Software
Delivery
Roadmap

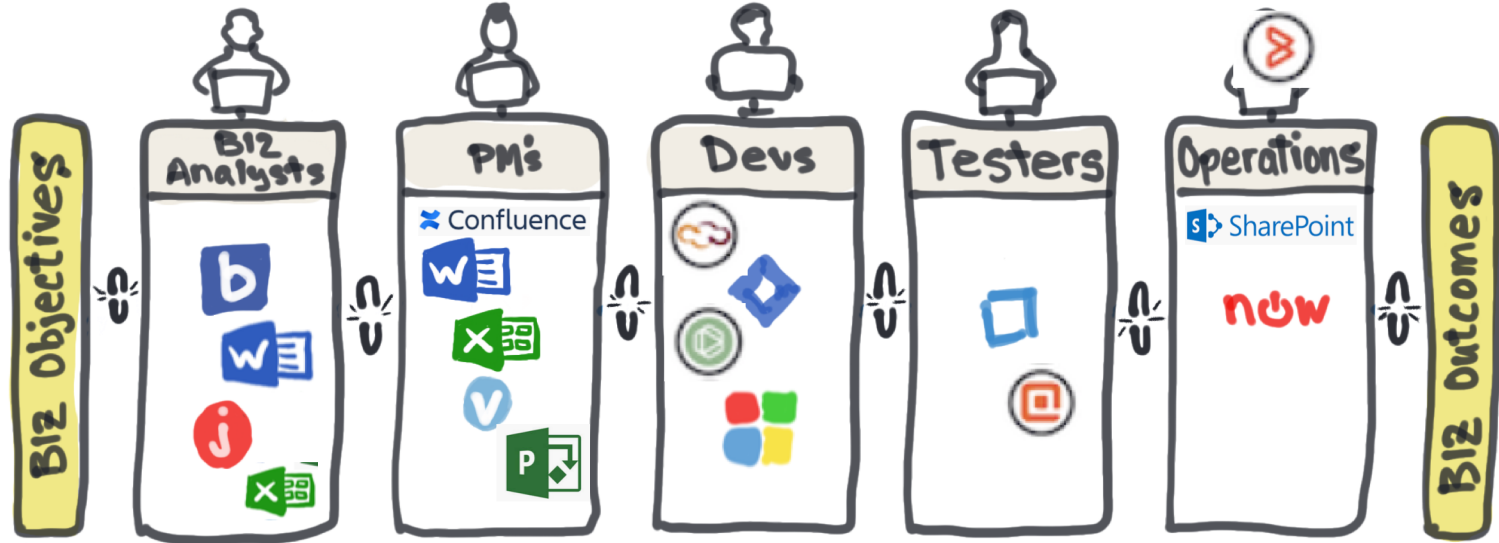


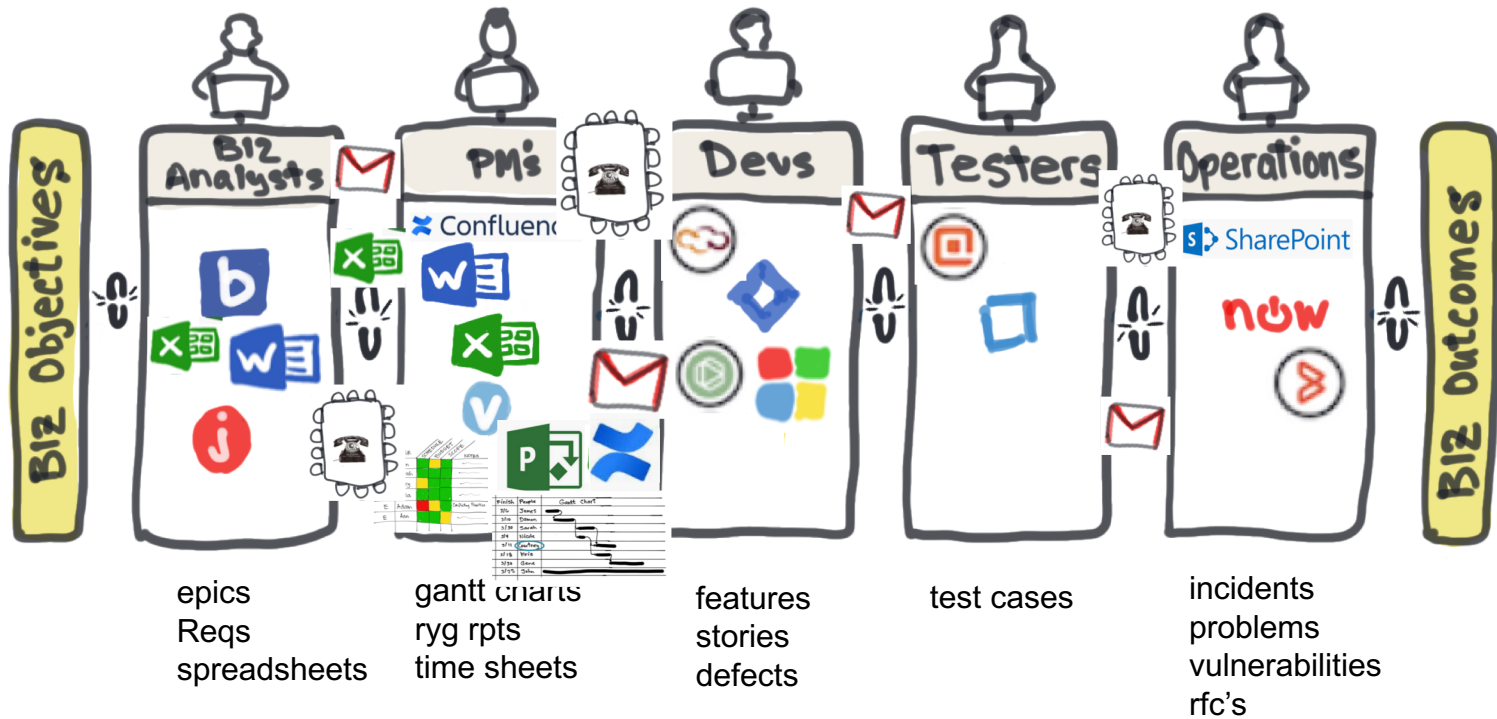
work request

Disconnects in communication
interferes with collaboration
& delays delivery

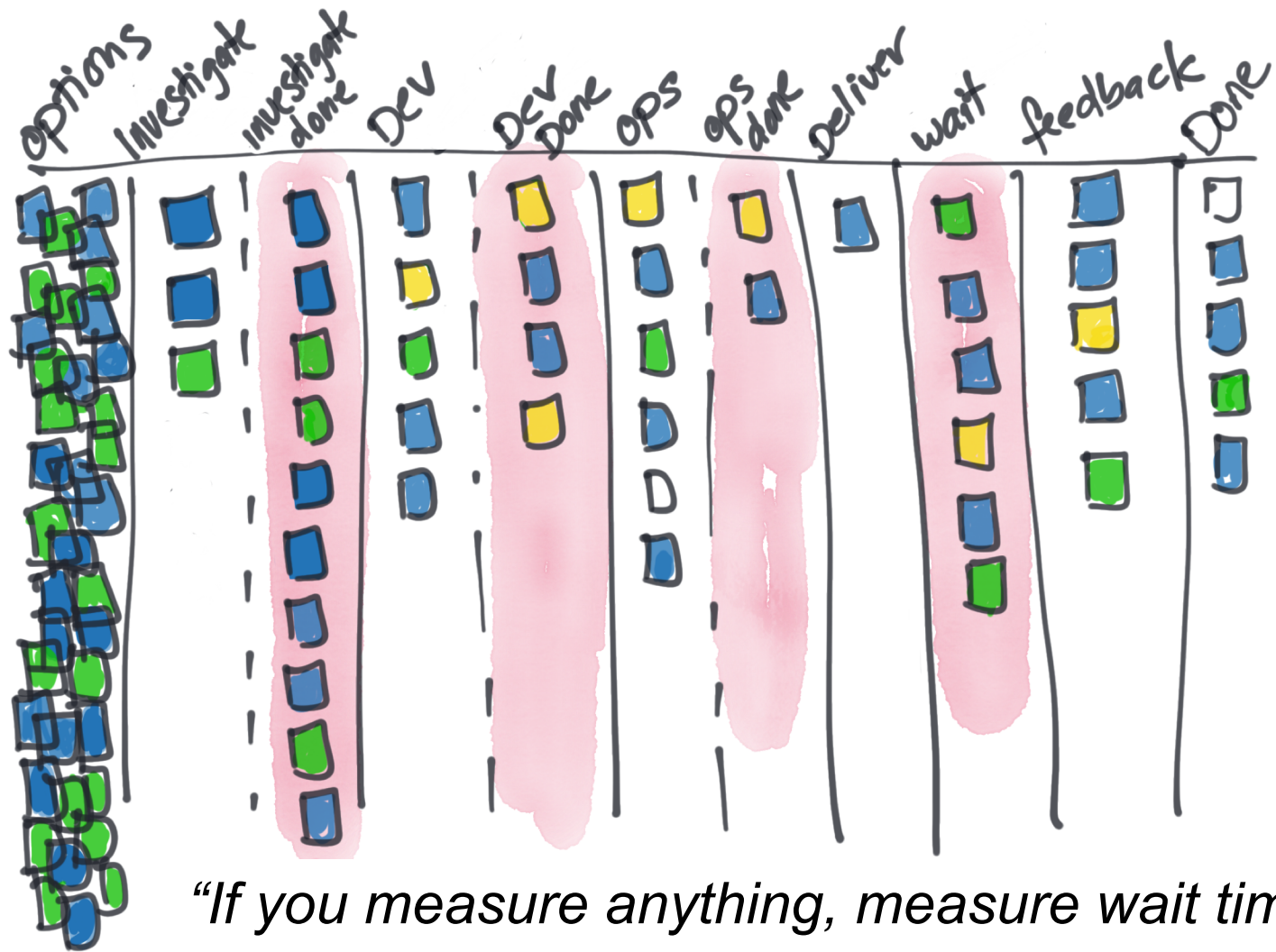


The reality of the situation





Tool fights break out due to inability to share knowledge, understand work capacity and improve workflow.



“If you measure anything, measure wait time.”

Exercise: Flow Metrics Discussion



Time: 3 min

Scenario:

Engagement level of your team is low

High utilization

Key people are leaving

Question for the table:

What changes and trends in which flow metrics would you expect to see given the above scenario?

Flow Metrics for Scenario

Things to consider:

- Things take too long – Flow time
- People drowning in work - Flow Load
- No investment in fixing Debt - Flow Distribution

- What about trust? Consider Flow Safety

Considerations

Flow Safety: A measure of trust



Examples:

- On my team, failure causes inquiry and not blame.
- Our leadership is open to hearing bad news.
- In my org, failures are learning opportunities and messengers are not punished.
- People on our team trust one another

Considerations:

1. If we improve one metric, what is the impact to other metrics?
2. What signals will you look for to recognize when one metric is optimized good enough and it's time to prioritize other metrics?
3. Improvement takes time – how to know when it starts?

The 5 Thieves of Time



Unplanned
work



Conflicting
Priorities



Unknown
Dependencies



Neglected
work



Too Much
WIP



What we measure impacts people because
people value what is measured.

TAKEAWAYS & BENEFITS

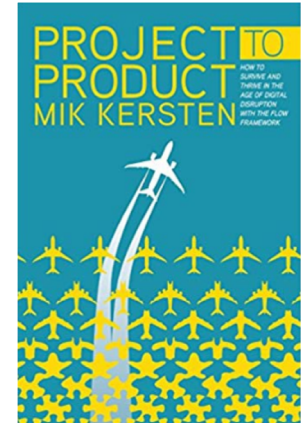
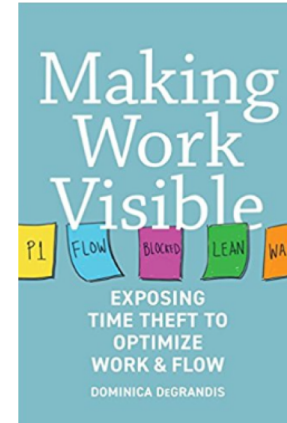
- Flow metrics are tied to business value
- Flow metrics are based on outcomes
- Flow metrics provide a feedback loop to improve decisions

IT can't be successful without business support and business people can't support IT if ideas aren't framed in terms they understand.

Involve your business people

5 Flow Metrics - focused on business outcomes

- **Flow Time** – speed
- **Flow Distribution** – work item types
- **Flow Velocity** – throughput
- **Flow Efficiency** – wait time ratio
- **Flow Load** – WIP



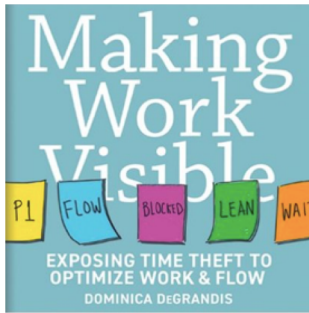
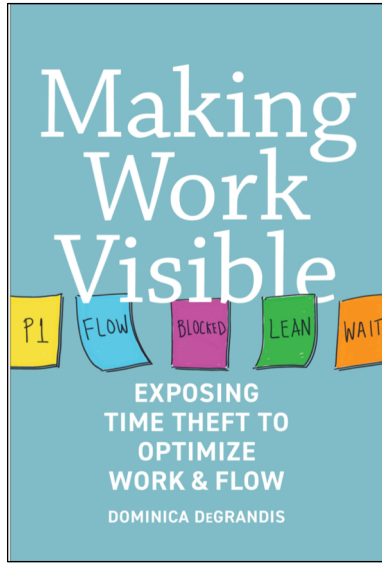
How to Get started with Flow Metrics

Start capturing 1 work item type in 1 VS and 1 flow metric

Homework:

“Find 1 business leader & 1 IT leader and take steps toward alignment. It's up to you.”

Ross Clanton



Email: dominica@SendYourSlides.com

Subject: **flow**

To receive:

- copy of presentation deck
- Flow 101 workshop info
- Value Stream Canvas exercise
- Tasktop tool integration video showing integrations between ServiceNow & Jira
- excerpts of Making Work Visible
- Forrester report on Value Stream Mgmt

