Asking a fundamental question

Problem:
delivering value
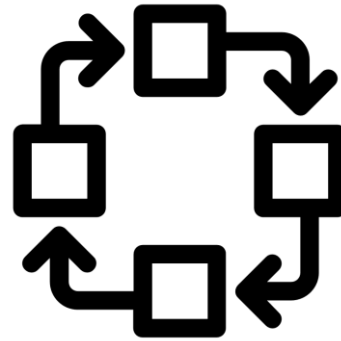
Impediments:
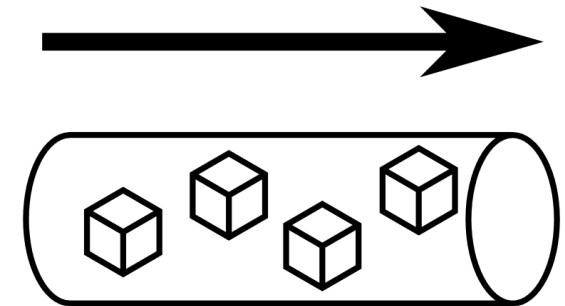long dev cycles, high workloads,
changing priorities, decreasing morale

Investments:
deployment pipeline,
automation, new
technologies

Are we really moving faster?
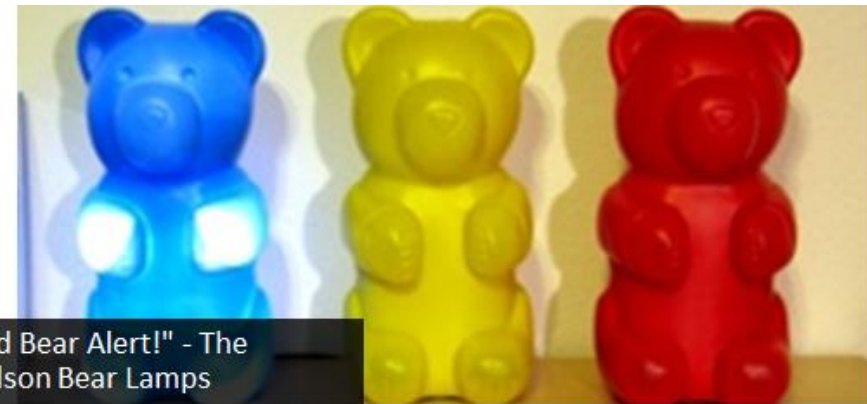
Fast physical feedback & visibility of problems

https://pixabay.com/de/photos/parzelle-parzellen-pakete-lieferung-2484036/

Ambient Awareness / eXtreme Feedback Devices

Fluidtime: Mechanical display unit with shoes

RETALIATION - A Jenkins "Extreme Feedback" Contraption

"Red Bear Alert!" - The Hudson Bear Lamps

Jenkins Build Monitor View

RETALIATION
Build #132

PetClinic-M

PetClinic-Code
Back in the green!
#21   3 days ago

PetClinic-Deploy
#7   3 days ago

PetClinic-FuncTest
4 builds have failed
#5   3 days ago

PetClinic-LoadTest
#4   3 days ago

PetClinic-Package
#2   3 days ago

PetClinic-Prod
#1   3 days ago

Michael Kieslinger, Fluidtime: Developing an Ubiquitous Time Information System https://bit.ly/2Rya5Wg, https://wiki.jenkins.io/pages/viewpage.action?pageId=20250625, https://github.com/codedance/Retaliation, https://plugins.jenkins.io/build-monitor-plugin/

ADDO
ALL DAY DEVOPS

We shape our buildings and afterwards our buildings shape us

\- Winston Churchill

ADDO
ALL DAY DEVOPS

Piggy-backing Change

First dashboard: Status

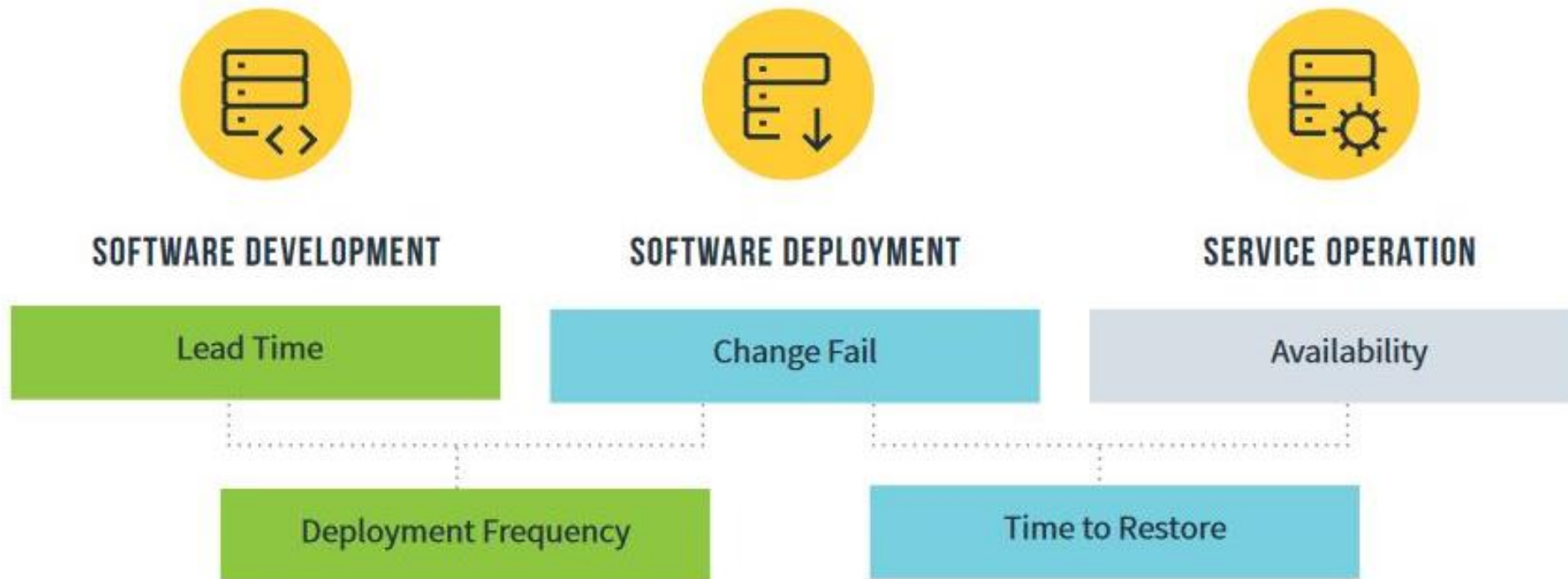# Epiphany I: We are creating too much inventory

Tickets done but not released

263

⬆0%

Last updated at 16:11

DevOps metrics

PERFORMANCE METRICS

SOFTWARE DEVELOPMENT
- Lead Time
- Deployment Frequency

SOFTWARE DEPLOYMENT
- Change Fail
- Time to Restore

SERVICE OPERATION
- Availability

DORA - Accelerate: State of DevOps 2019: Elite performance, productivity, and scaling

Which metrics to use?

Jez Humble ✔
@jezhumble

The thing to (always!) bear in mind is that the 4 software _delivery_ metrics in Accelerate relate to the product delivery domain (see attached from Accelerate p15). Adrian is talking about end-to-end lead time through the product design and development value stream.
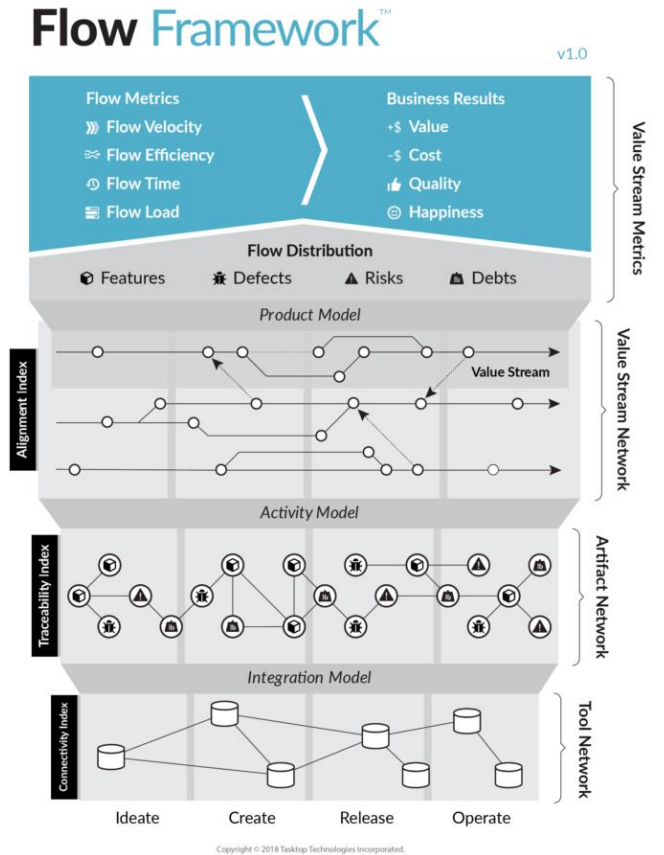
Table 2.1 Design vs. Delivery

Product Design and Development	Product Delivery (Build, Testing, Deployment)
Create new products and services that solve customer problems using hypothesis-driven delivery, modern UX, design thinking.	Enable fast flow from development to production and reliable releases by standardizing work, and reducing variability and batch sizes.
Feature design and implementation may require work that has never been performed before.	Integration, test, and deployment must be performed continuously as quickly as possible.
Estimates are highly uncertain.	Cycle times should be well-known and predictable.
Outcomes are highly variable.	Outcomes should have low variability.

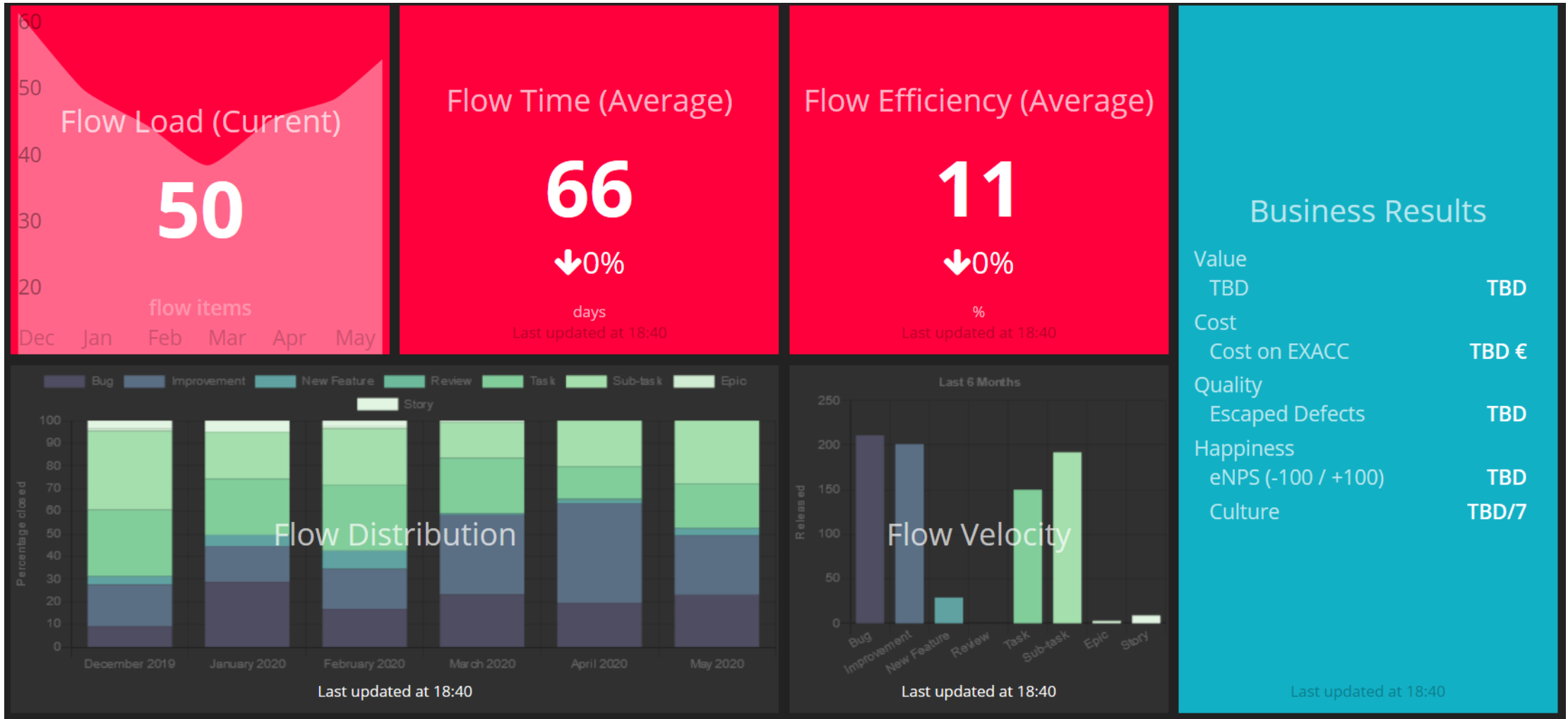8:12 PM · Sep 16, 2020   ⓘ

Flow Metrics

- **Flow Load:** Number of flow items being actively worked on in a value stream, denoting the amount of WIP (work in progress). Monitors over and under-utilization, which can lead to reduced productivity.

- **Flow Time:** Duration that it takes for a flow item to go from being accepted for work into the value stream to completion, including both active and wait time. Monitors if Time to Value is getting longer.

- **Flow Efficiency:** The proportion of time flow times are actively worked on to the total time elapsed. Identify when waste is increasing or decreasing in your processes.

- **Flow Velocity:** number of flow items done in a given time. Also referred to as throughput. Gauges whether value delivery is accelerating.

- **Flow Distribution:** Mutually Exclusive and Comprehensively Exhaustive allocation of flow items in a particular flow state across a measure of time. Helps prioritize specific types of work during specific time frames in order to meet a desired business outcome.
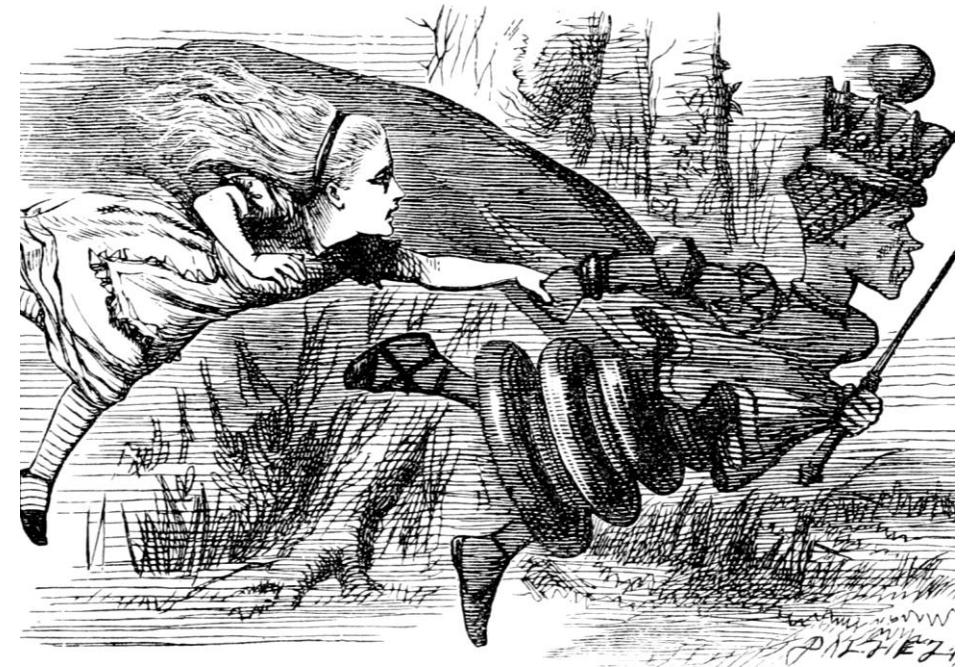

https://flowframework.org/

Flowboard

Flow Load (Current)

50

flow items

Dec | Jan | Feb | Mar | Apr | May

Flow Time (Average)

66

↓0%

days
Last updated at 18:40

Flow Efficiency (Average)

11

↓0%

%
Last updated at 18:40

Business Results

Value
  TBD   TBD
Cost
  Cost on EXACC   TBD €
Quality
  Escaped Defects   TBD
Happiness
  eNPS (-100 / +100)   TBD
  Culture   TBD/7

Last updated at 18:40

Bug | Improvement | New Feature | Review | Task | Sub-task | Epic
Story

Flow Distribution

December 2019 | January 2020 | February 2020 | March 2020 | April 2020 | May 2020

Last updated at 18:40

Last 6 Months

Flow Velocity

Bug | Improvement | New Feature | Review | Task | Sub-task | Epic | Story

Last updated at 18:40

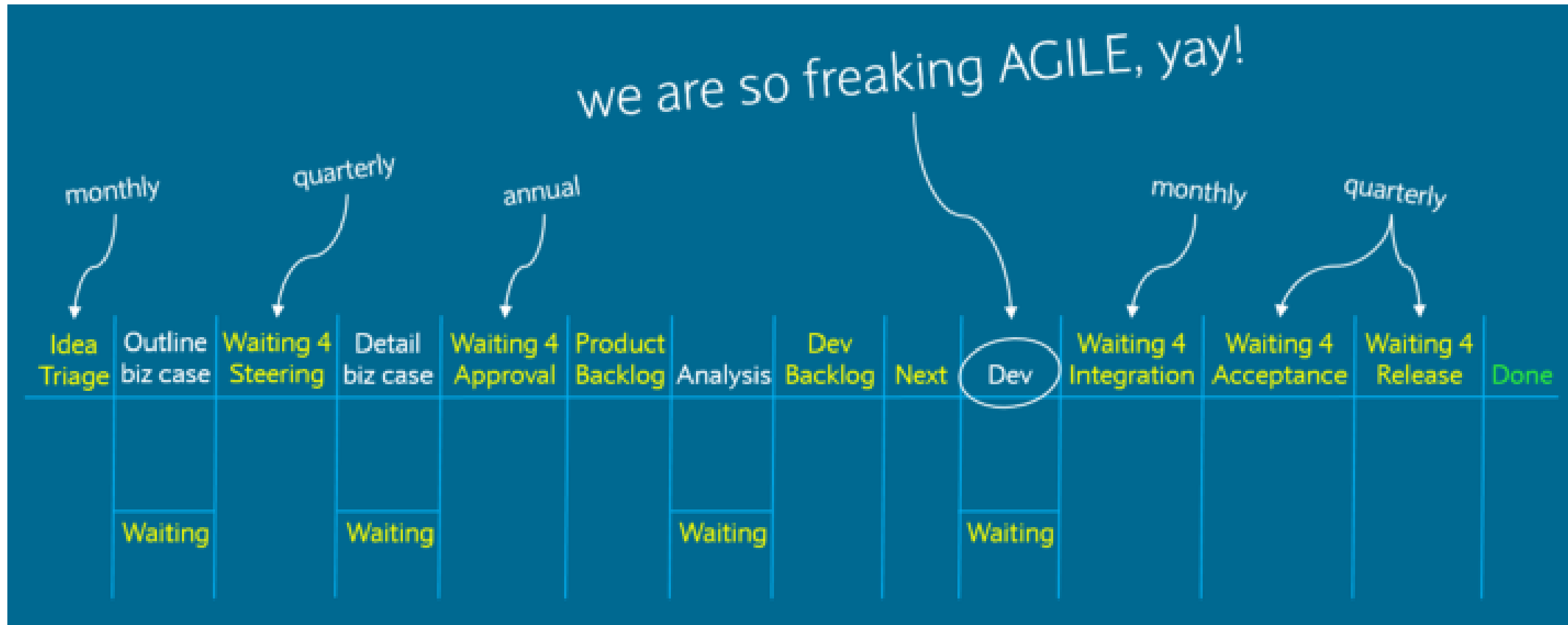# Epiphany II – We will never be able to run fast enough

My dear, here we must run as fast as we can, just to stay in place. And if you wish to go anywhere you must run twice as fast as that."

— Red Queen's Race, Lewis Carroll, Through the Looking-Glass, and What Alice Found There
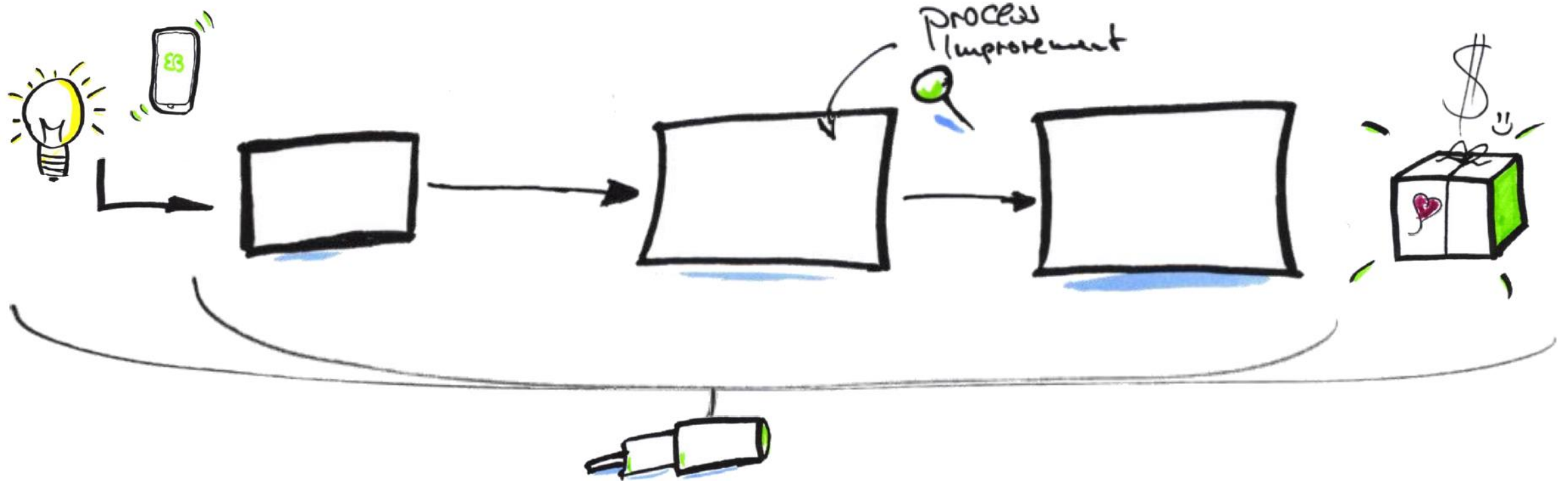

https://en.wikipedia.org/wiki/Red_Queen%27s_race#/media/File:Alice_queen2.jpg

Local Optimization & the Urgency Paradox

Klaus Leopold Why Agile Teams Have Nothing To Do With Business Agility
John Smart https://medium.com/sooner-safer-happier/agility-build-the-right-thing-69d316aeb56b

Value Stream Mapping

(non) value adding activities

K spent on waste...   K spent to add value ...

"our product"

Process Improvement

Value Stream Analysis

Customer

Design & Analysis

5: Line of Biz

LT: 2 weeks
PT: 2 days
%C/A: 70%

2 weeks
2 days

Design approval

1: Line of Biz

LT: 1 week
PT: 2 hours
%C/A: 60%

1 week
2 hours

Backlog
(120 items)

**Release planning
& Estimation**

3: Project management office

LT: 3 weeks
PT: 1 hour
%C/A: 60%

3 weeks
1 hour

Ready for
development
(20 items)

**Exploratory &
perf testing**

5: QA

LT: 2 days
PT: 1 day
%C/A: 75%

**Development & dev
testing (including test
automation)**

10: Engineering

LT: 1 week
PT: 4 days
%C/A: 80%

QA passed
(5 items)

Showcase and UAT

5: QA

LT: 3 days
PT: 2 hours
%C/A: 50%

Change approval

1: IT Ops

LT: 1 week
PT: 1 hour
%C/A: 90%

Ready for
Release
(10 items)

Production deployment

8: IT Ops

LT: 1 week
PT: 1 hour
%C/A: 80%

1 week
4 days

3 days
2 hours

1 week
1 hour

1 week
2 hours

LT: Lead time
PT : Process time
%C/A : Percent complete and accurate

Total LT = 9.5 weeks
Total PT = 7 days
Activity Ratio = 14.5%
Rolled %C/A = 5.4%

https://cloud.google.com/solutions/devops/devops-process-work-visibility-in-value-stream

Outcomes

- Moved to light-weight quarterly planning cycle

- Moved meetings to Monday

- Track Work in Progress closely, Work in smaller batches and double our release frequency in 2020, providing monthly patch releases and quarterly minor releases.

- Started collecting data on employee engagement and psychological safety

- Are heavily investing in test automation and built a new test track as well as simulation/emulation capabilities to test more of our use cases automatically

Challenges that still remain:

- We are looking into reorganizing our teams based on cognitive capacity

- We want to establish a common language using the stories from e.g. The Phoenix Project and The Unicorn Project and started an online book club last month

- We were planning customer visits (gemba walk) to better understand new use cases and need for improvement, but due to the COVID-19 pandemic we had to put them on a hold and find other ways to accomplish this goal.

Watch if you want to know more

- **ADDO 2019**
  - **Vlatko Ivanovski - DevOps Metrics - Measuring What Matters**
  - **Dominica DeGrandis - Making Better Business Decisions With Flow Metrics**
- **ADDO 2020 – Spring Break Edition**
  - **Carmen DeArdo - Use Flow Metrics to drive Business Results NOW**
- **ADDO 2020:**
  - **Helen Beal - Using DevOps Principles to Measure Value Flow**
  - **Laksh Ranganathan - Outcomes over Outputs: Measure what matters to the business**
  - **Carmen DeArdo - How to Improve the Flow of Delivery of Business Value**

Read if you want to know more
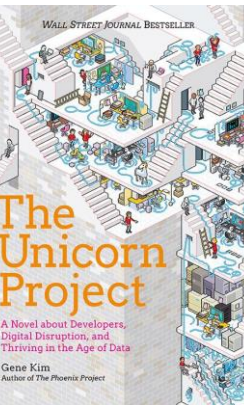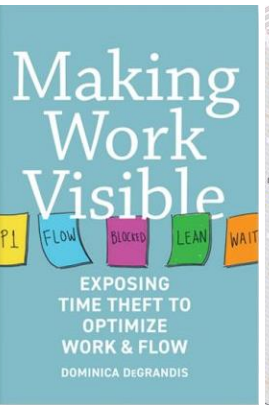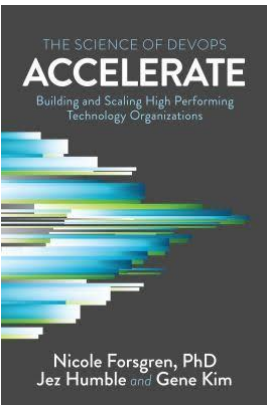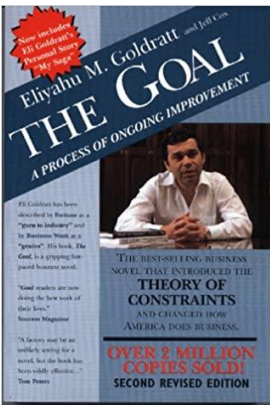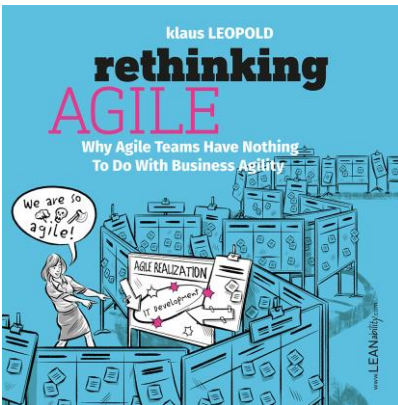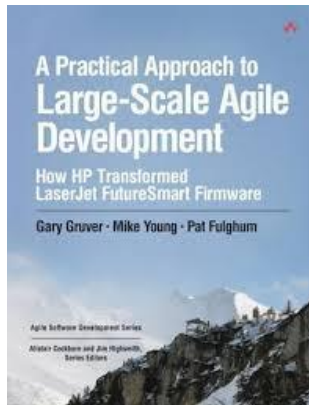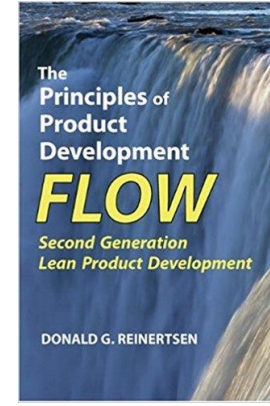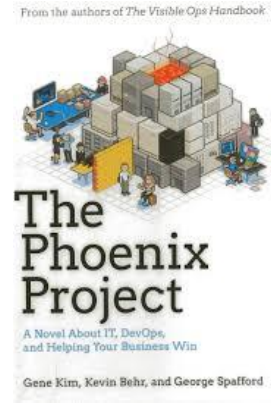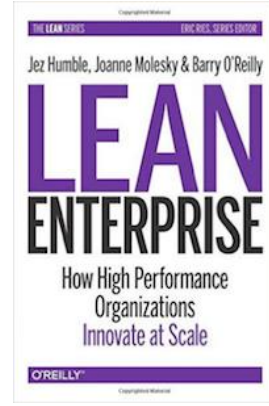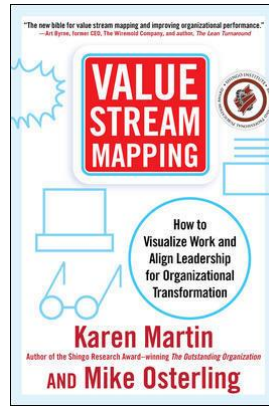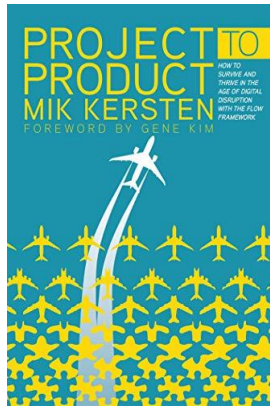
TLDR; Just give me the code!

You can find the code of the dashboards that I developed here:

https://github.com/rompic/Smashing-Flowboard

Find a blog post with more details here:

https://pickl.eu/blog/

- Forrester has recently published:
  - **Elevate Agile-plus-DevOps with VSM** which describes the benefits of the tools available in the emerging Value Stream Management market.
  - **The Forrester Wave™: Value Stream Management Solutions, Q3 2020** which list 11 leading providers of such tools