Your team vs kebab place vs F1 pitstop

Theory of constraints – primary DevOps element – explained!

Konrad Otrębski

konradotrebski

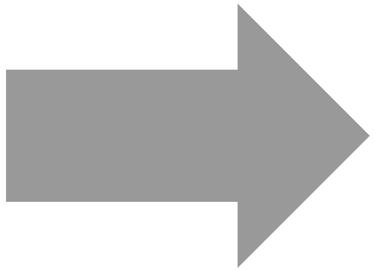
kmotrebski

Learning!

?????????

Operations in general

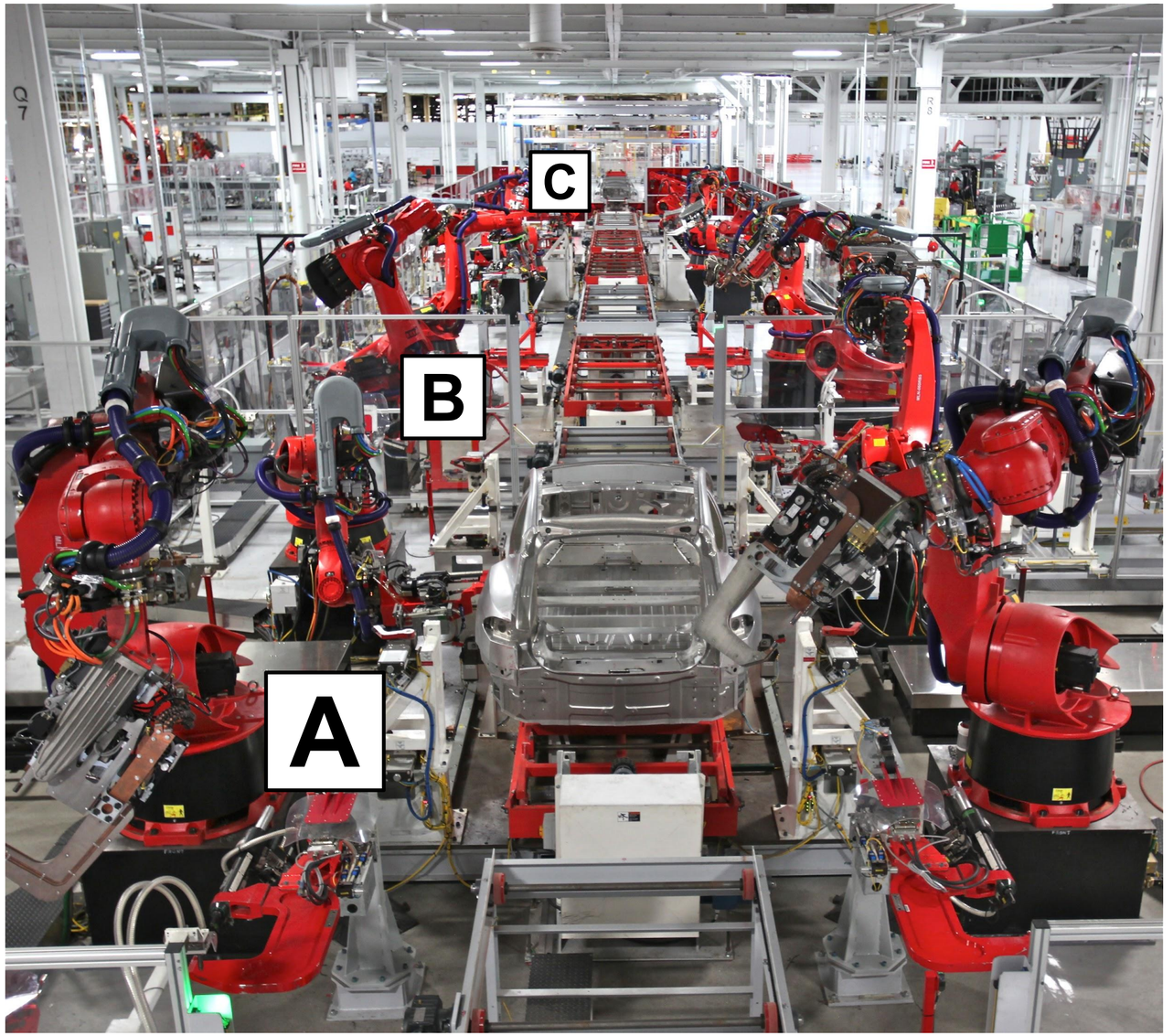
Theory of Constraints

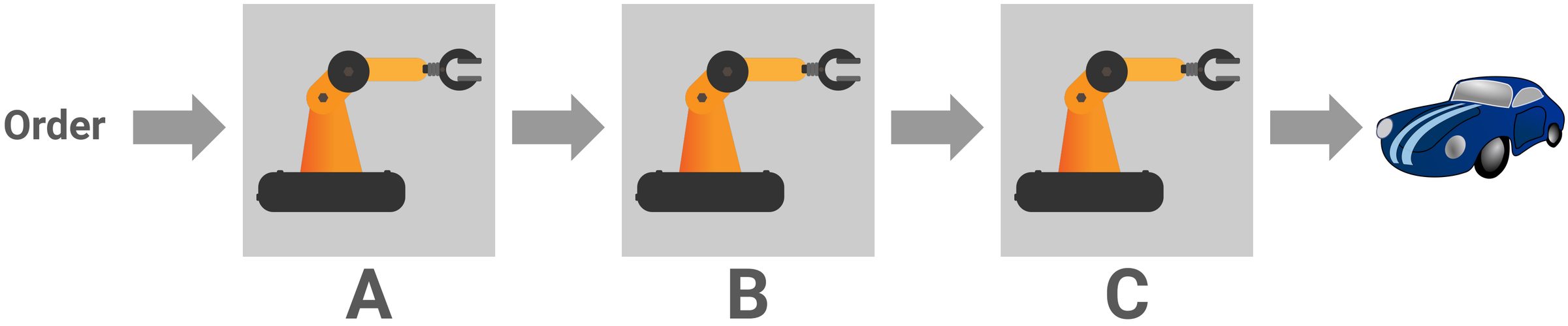


Software delivery

DevOps

We all work in a factory


C
B
A


Order
A
B
C

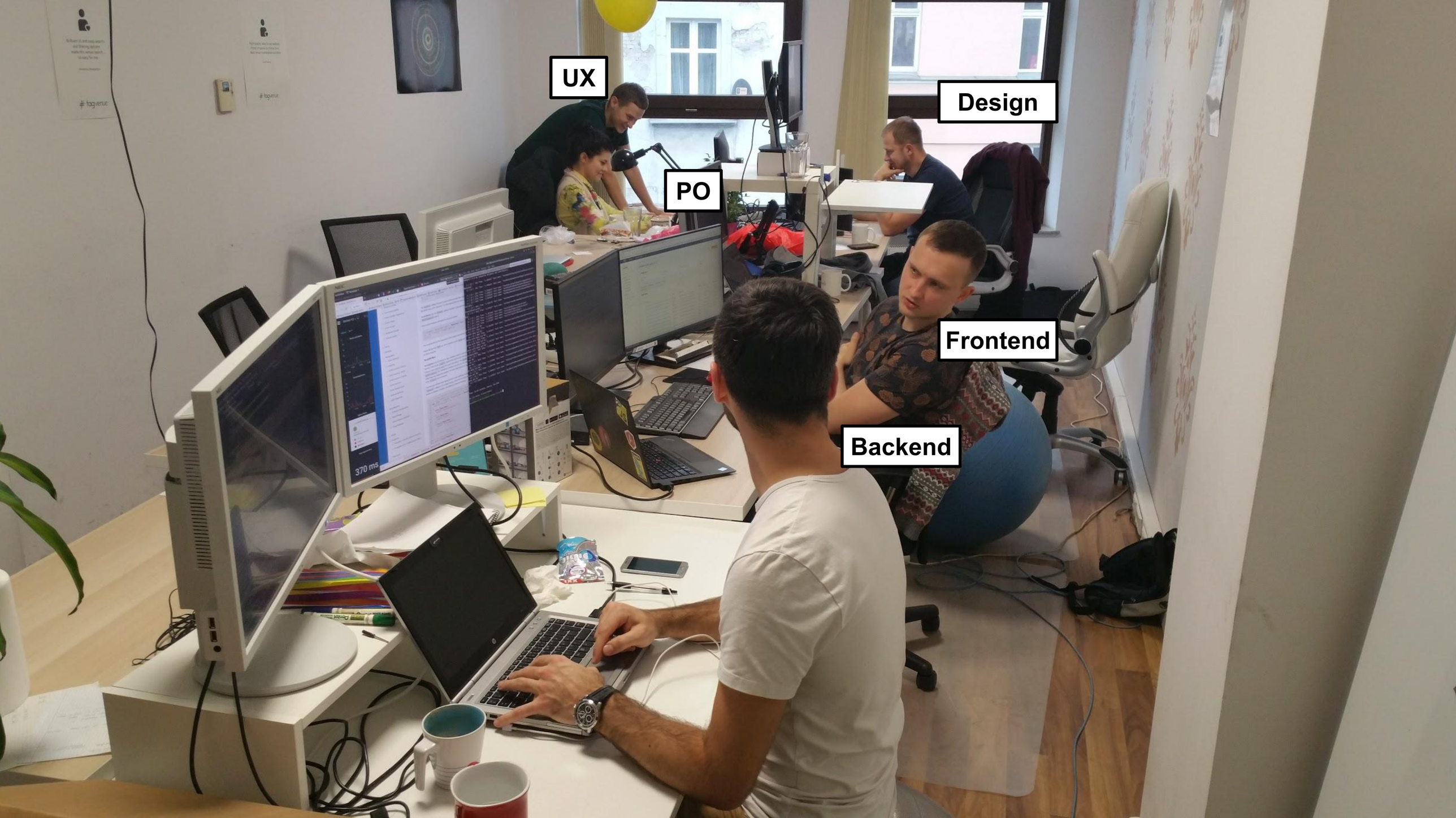

HALAL
GRILLHÄHNCHEN
BÖREK TELLER
LAHMACUN
DÖNERTREFF
DÖNER & GRILLHENDL
DÖNER TELLER
PIZZA
FALAFEL DÜRÜM
DÖNER BOX
DÖNER Kebap
Kaffee to go
Kaffee und Tee
Börek
Grillhendl
Kalte Getränke
Drücken
SU BÖREĞI
7,90
Wrap
Schnitzelsemmel
Belegte Semmeln
Brezeln
Croissant und mehr.

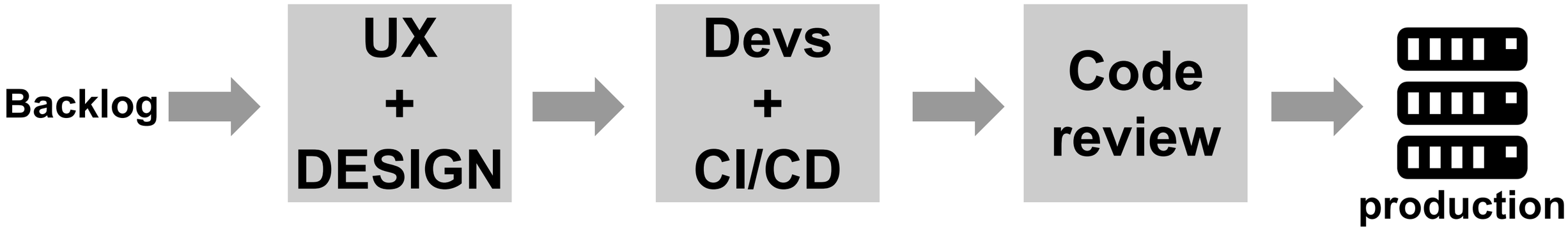
bread

veggies

meat

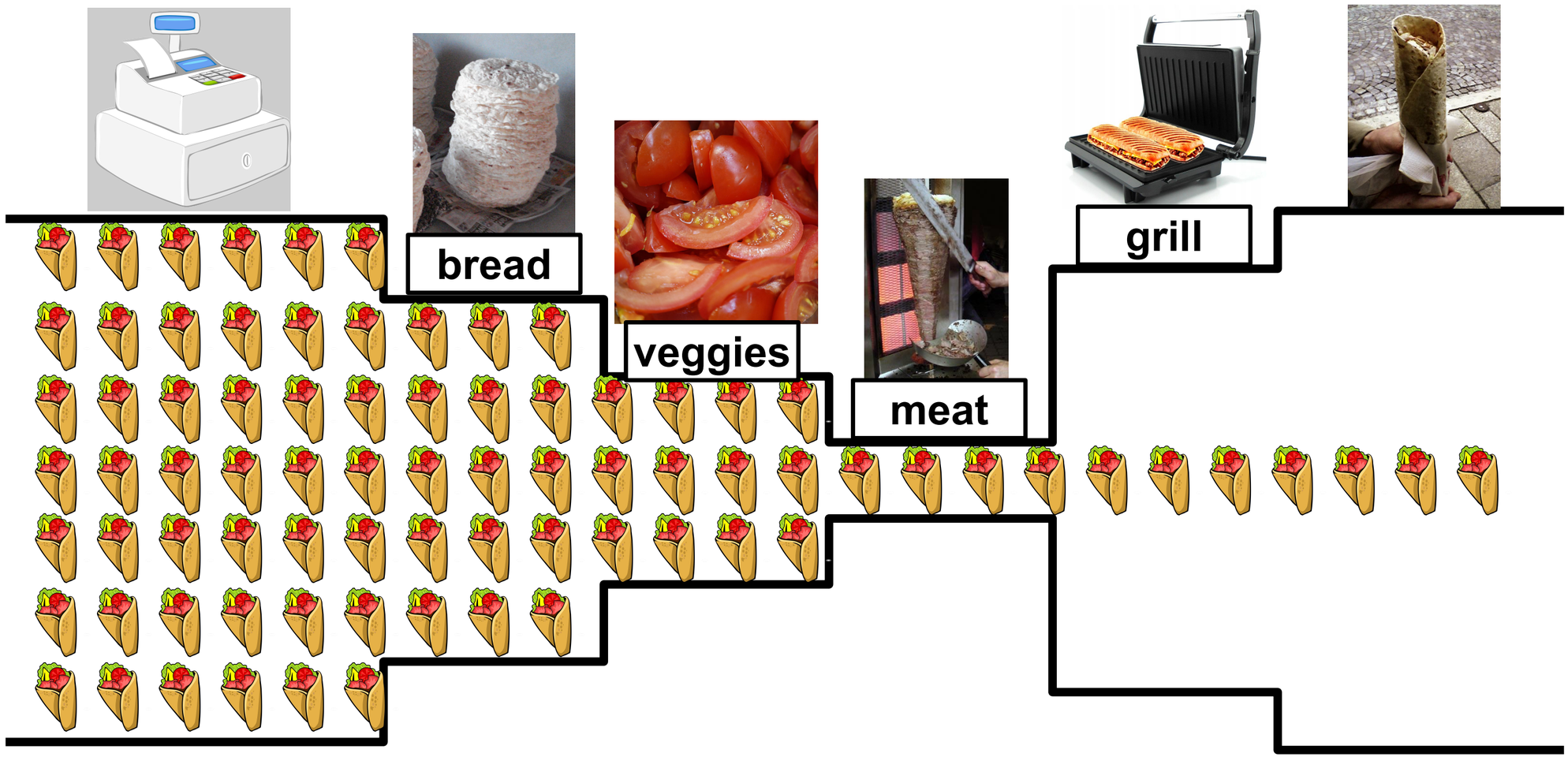
grill


UX
Design
PO
Frontend
Backend


Backlog
UX
+
DESIGN
Devs
+
CI/CD
Code
review
production

Bottleneck

aka constraint


bread
veggies
meat
grill

The 5 focusing steps

YOUR TEAM

Step

mit!

kmot

2. Exploit

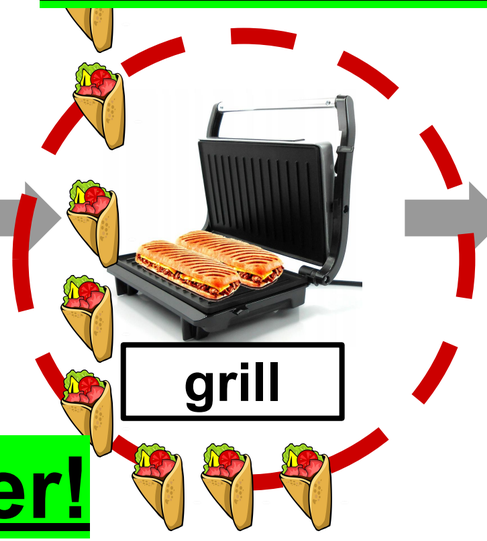
bottleneck waste = system waste

100% utilization ! !

bread

veggies

meat



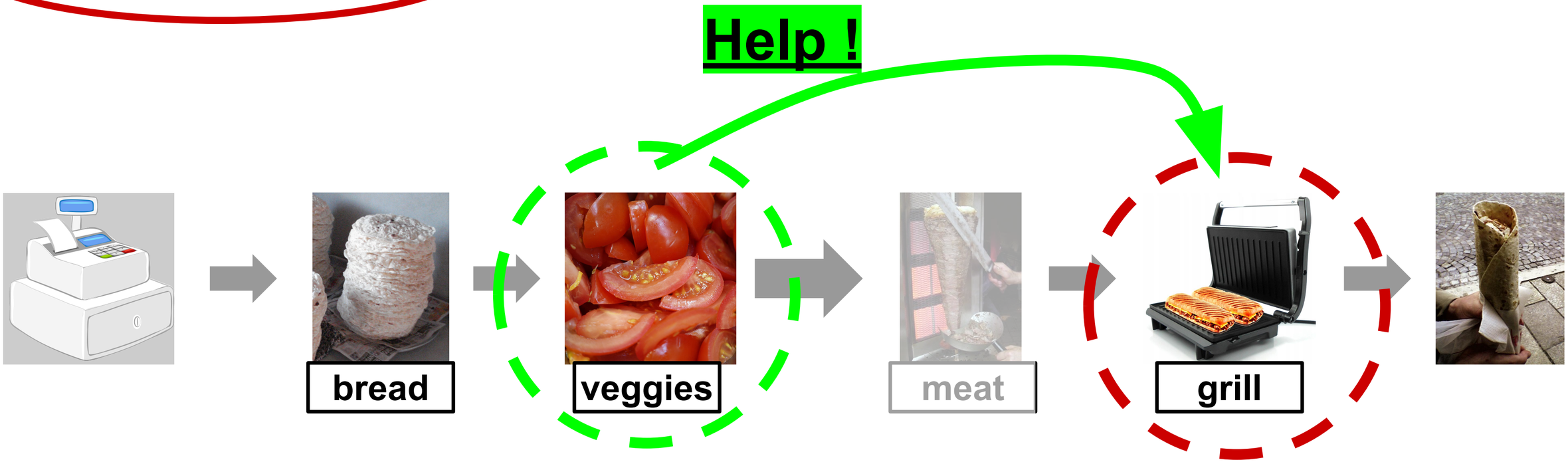
grill

buffer!

15 /min 5 /min 3 /min

Lost: 5 min x 3 /min = 15 kebabs

3. Subordinate



4. Elevate

Improve flow

bread

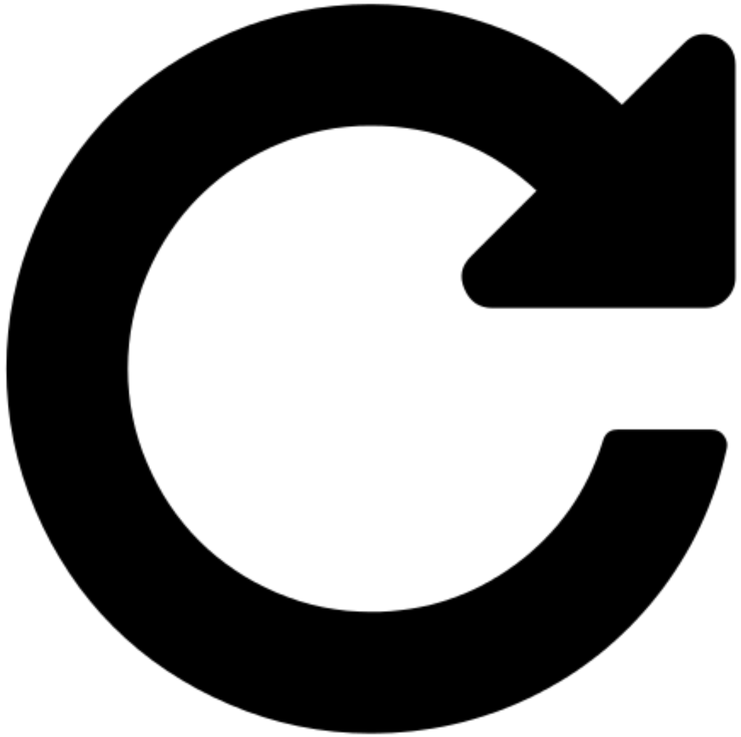
veggies

meat

grill

15 /min 5 /min 6 /min

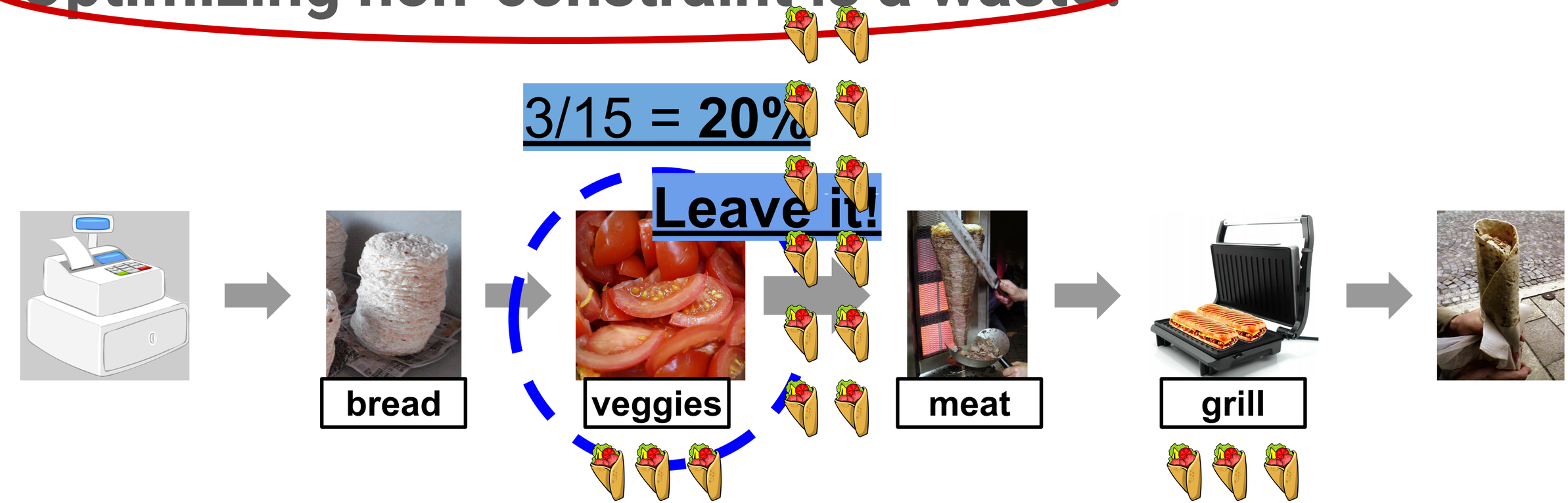
5. Repeat



5 focusing steps of ToC

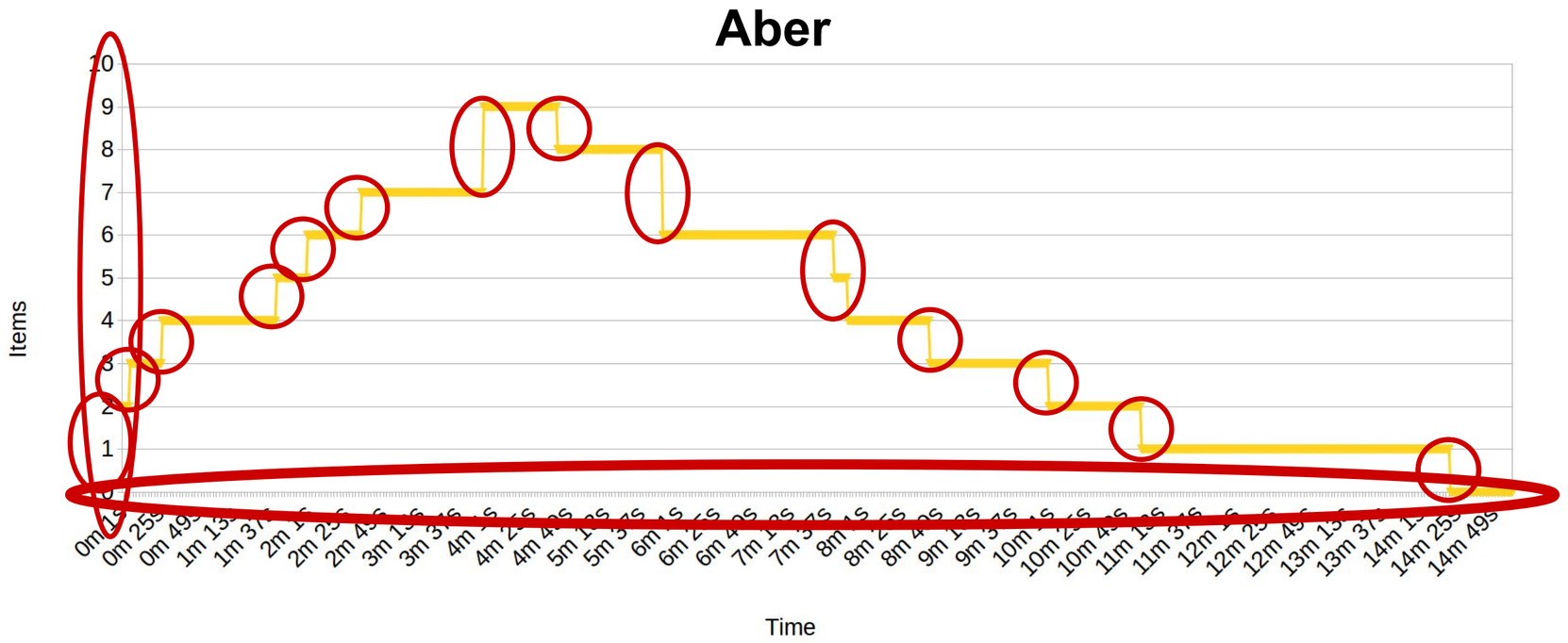
- Identify
- Exploit
- Subordinate
- Elevate
- Repeat!

Optimizing non-constraint is a waste!

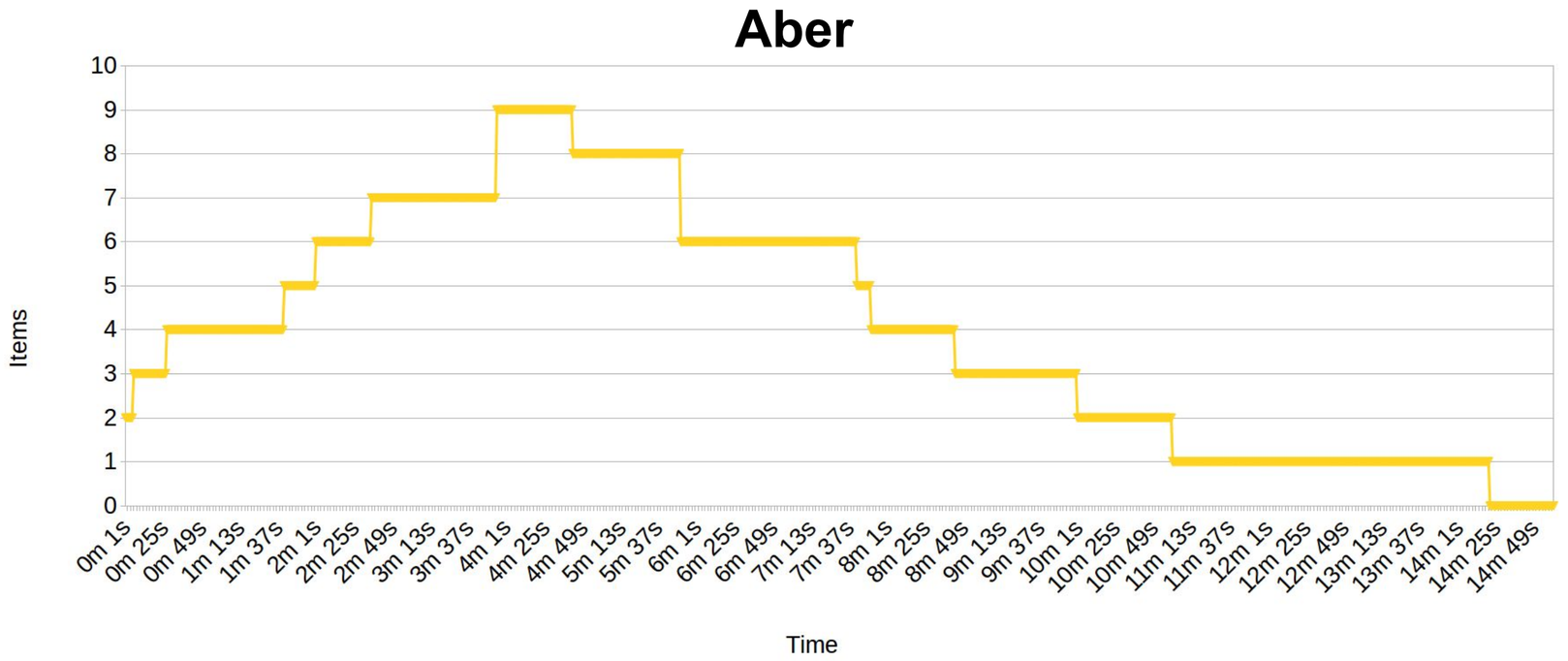


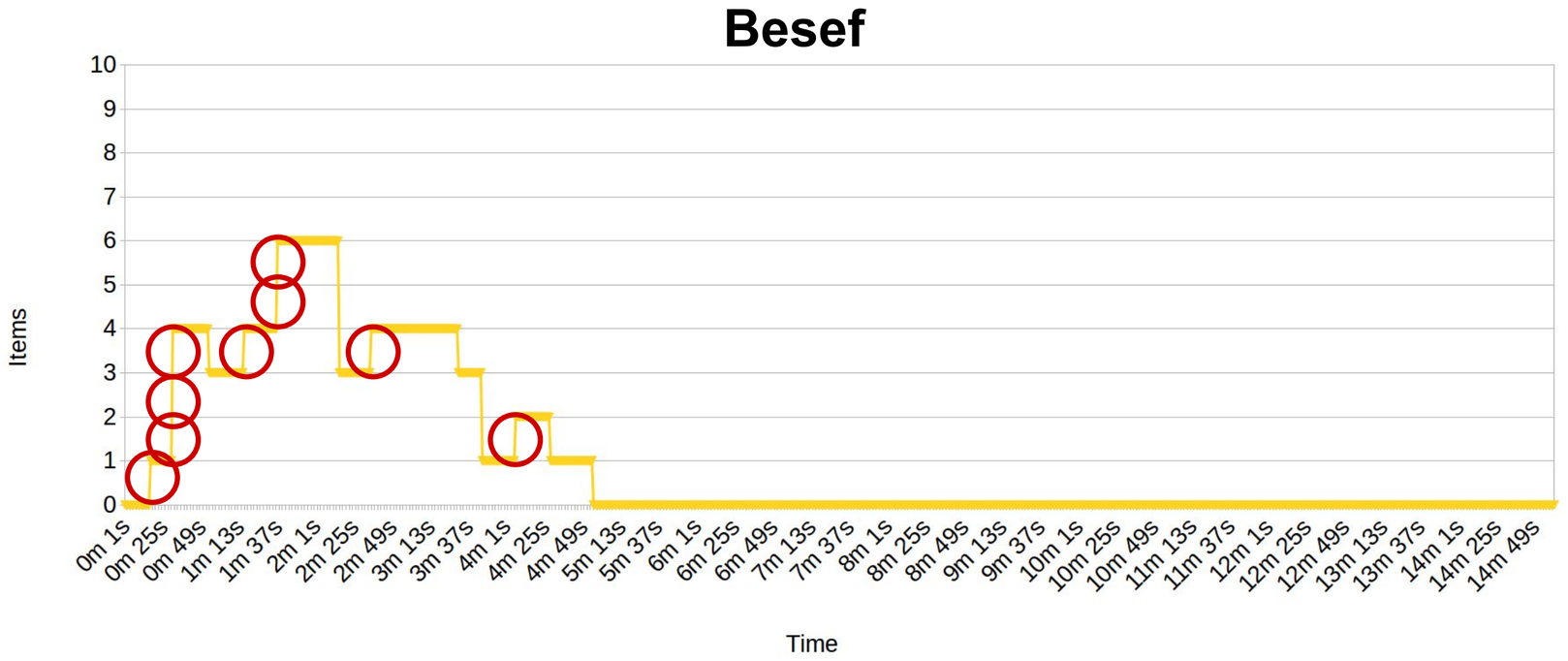

KEBAB

Work in progress

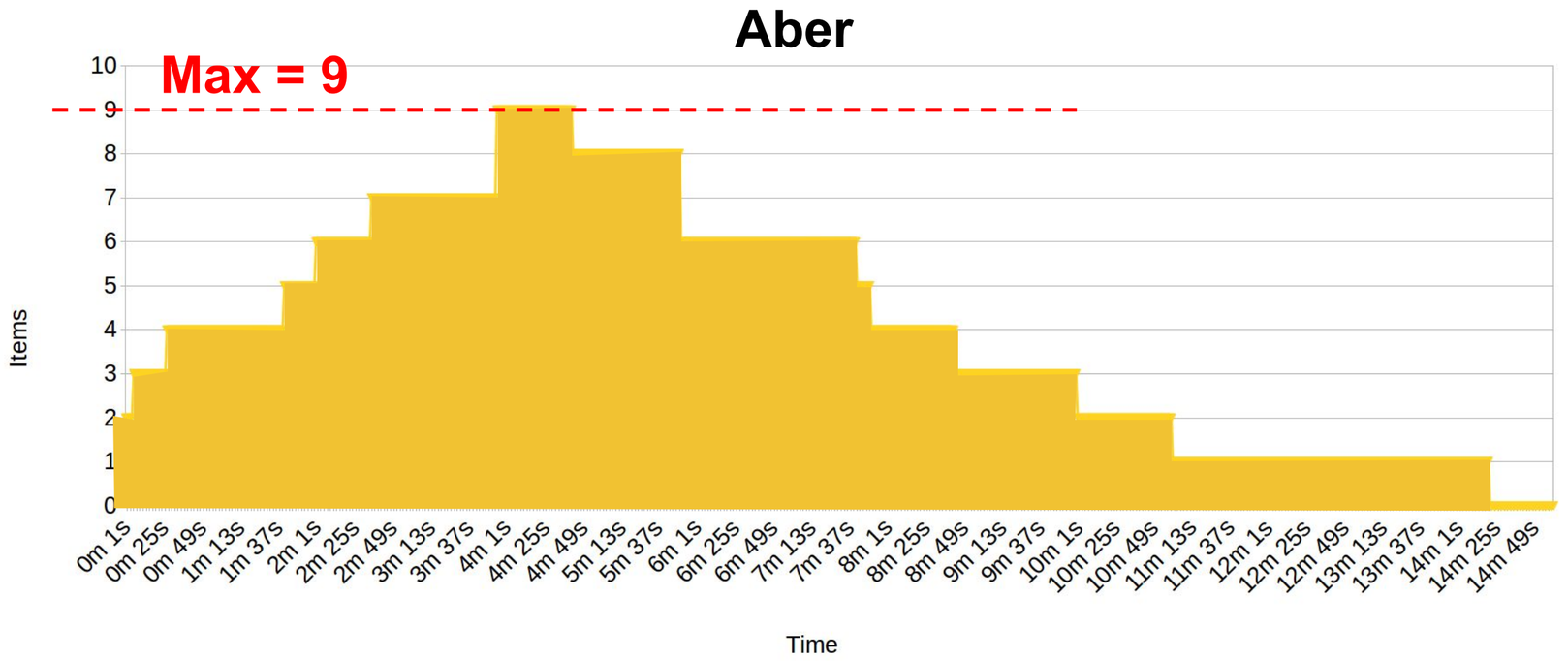


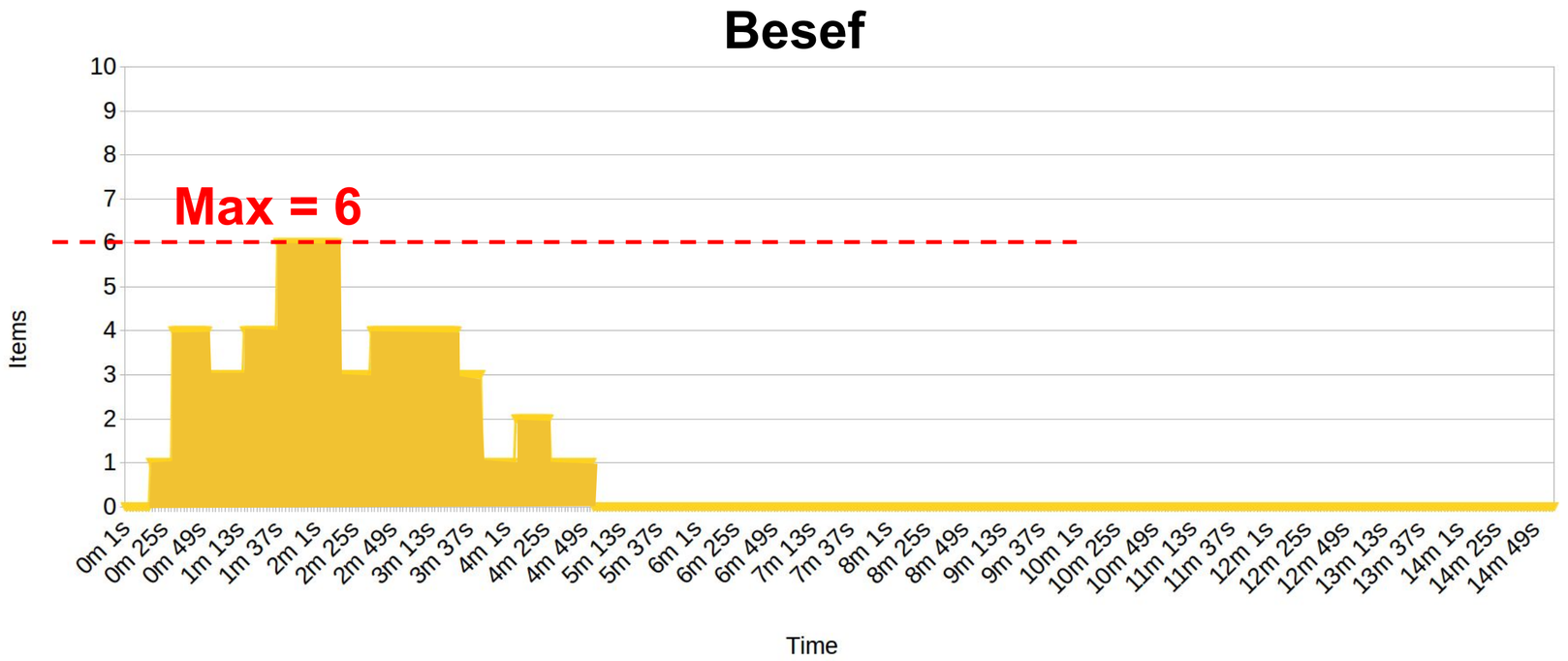
Work in progress



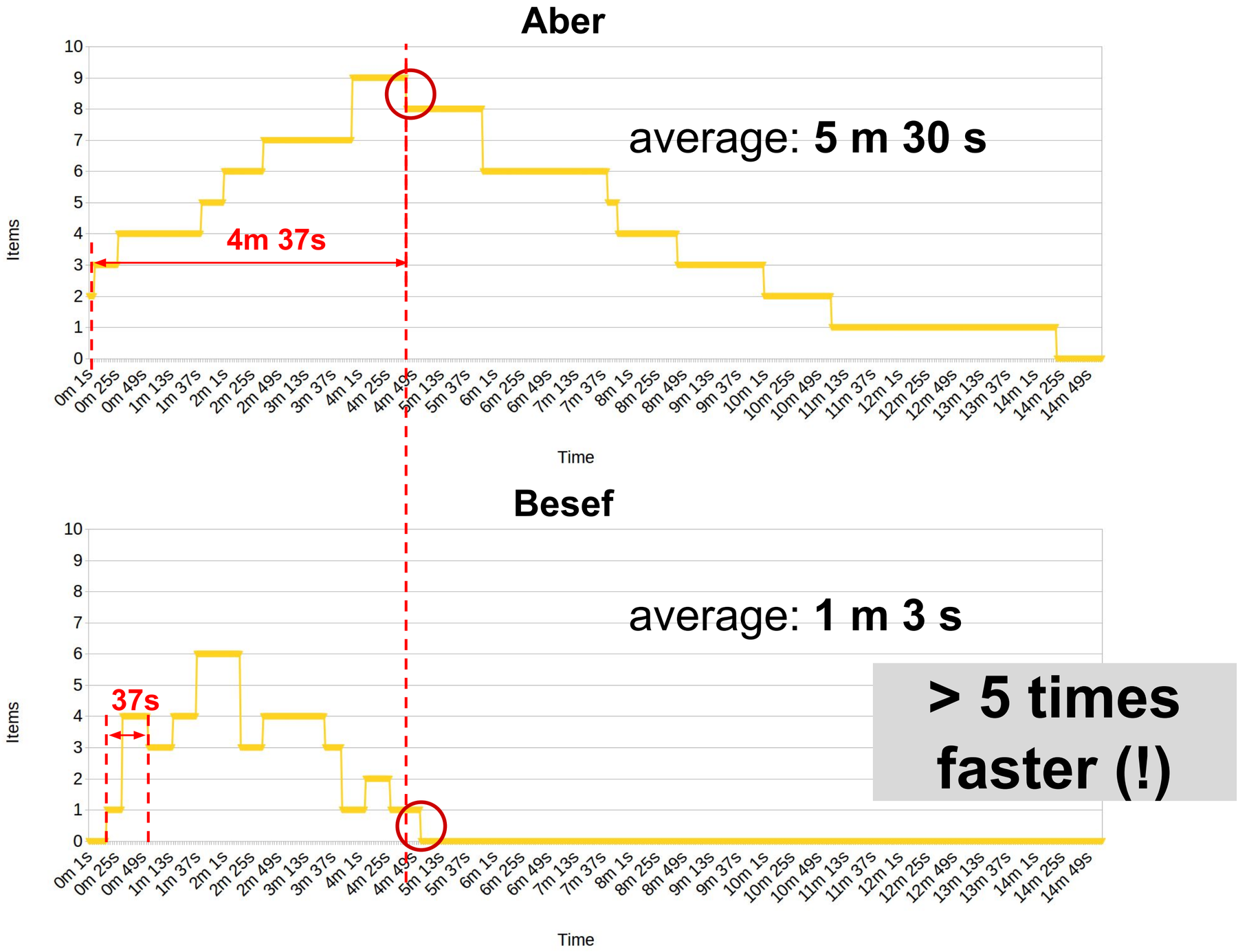


Work in progress





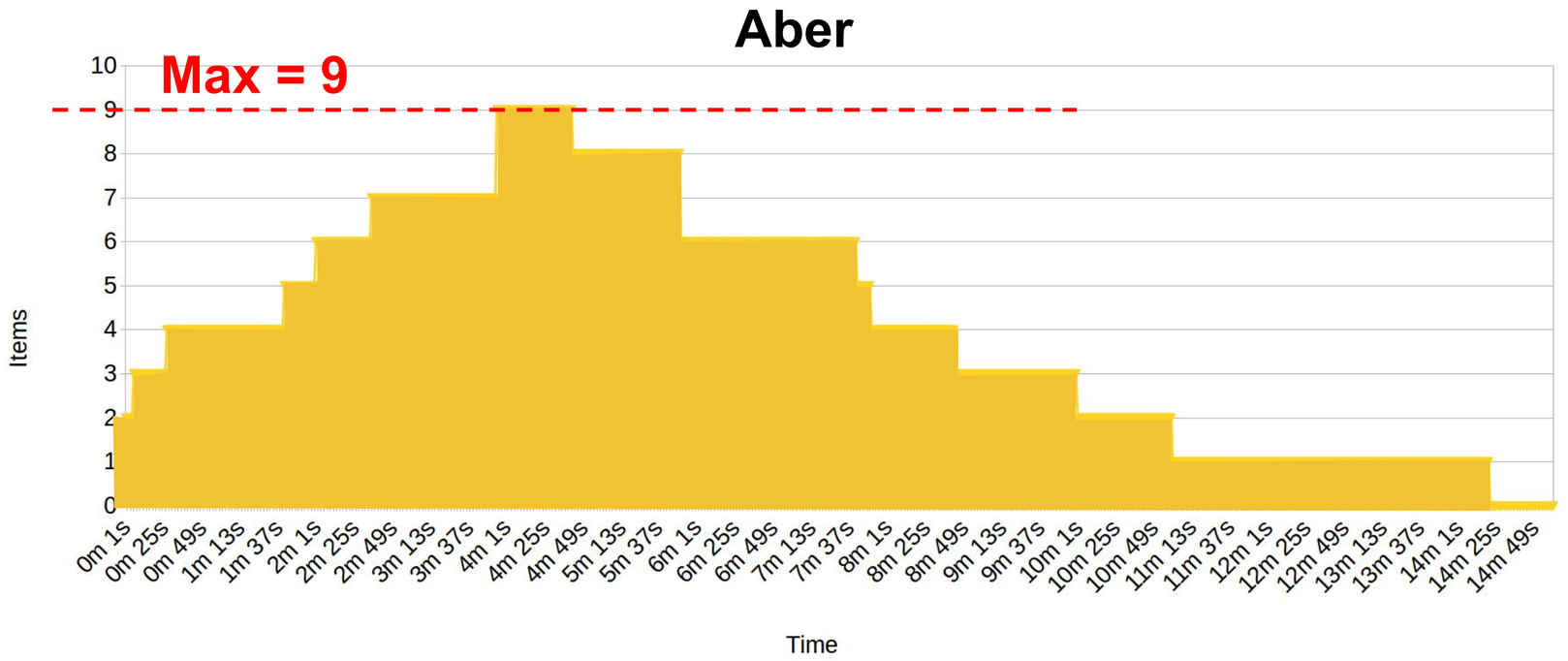
Lead time

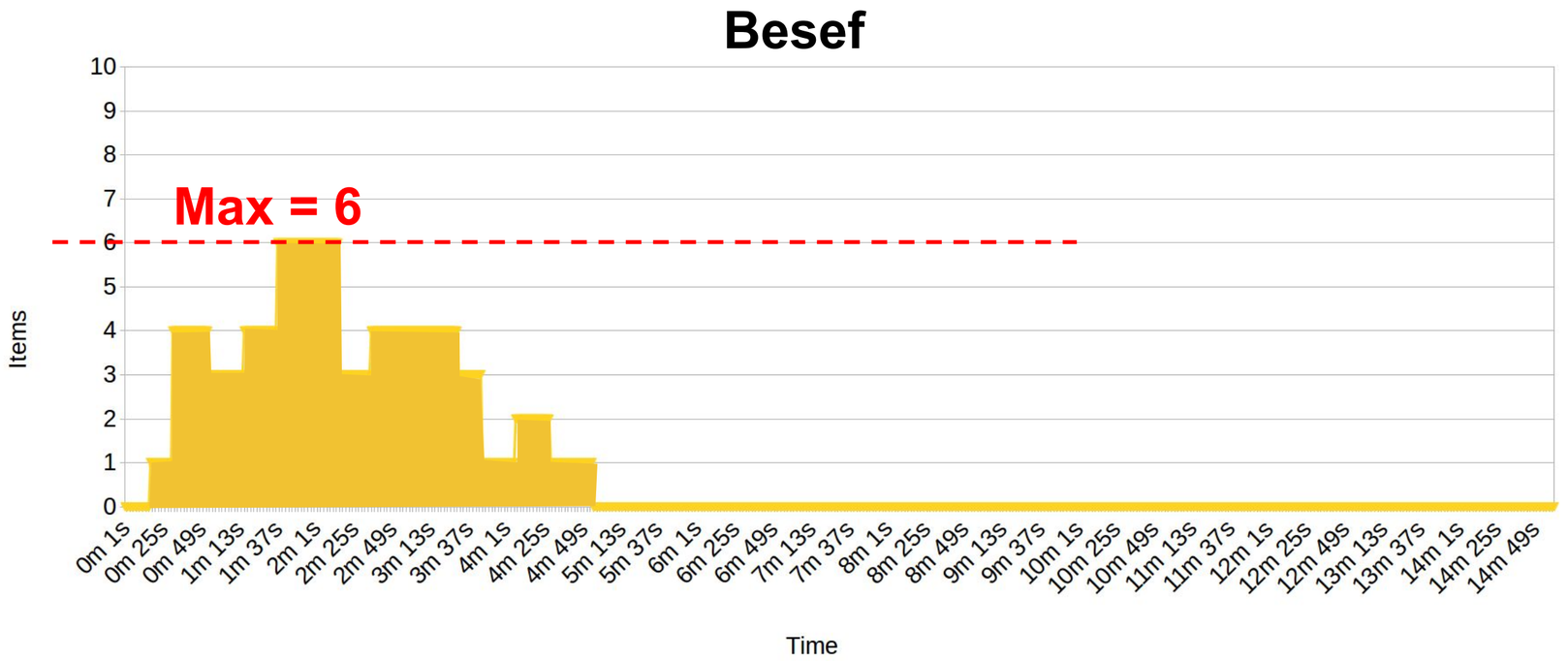


> 5 times faster (!)

?????????

Work in progress





tagvenue

Aber

bread

loading...

veggies

meat

Empty ! !

grill

Besef

bread

grill

faster!

veggies

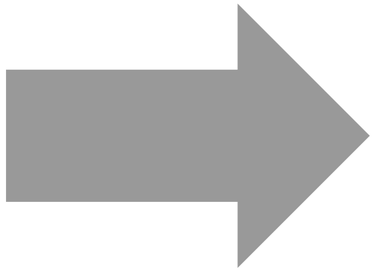
meat

100% !!

technology!

Operations in general

Theory of Constraints



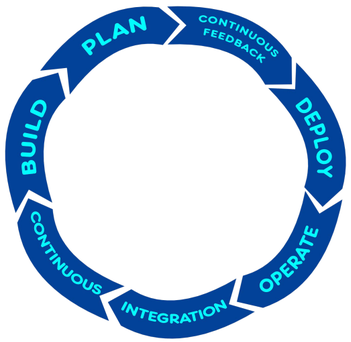
Software delivery

DevOps

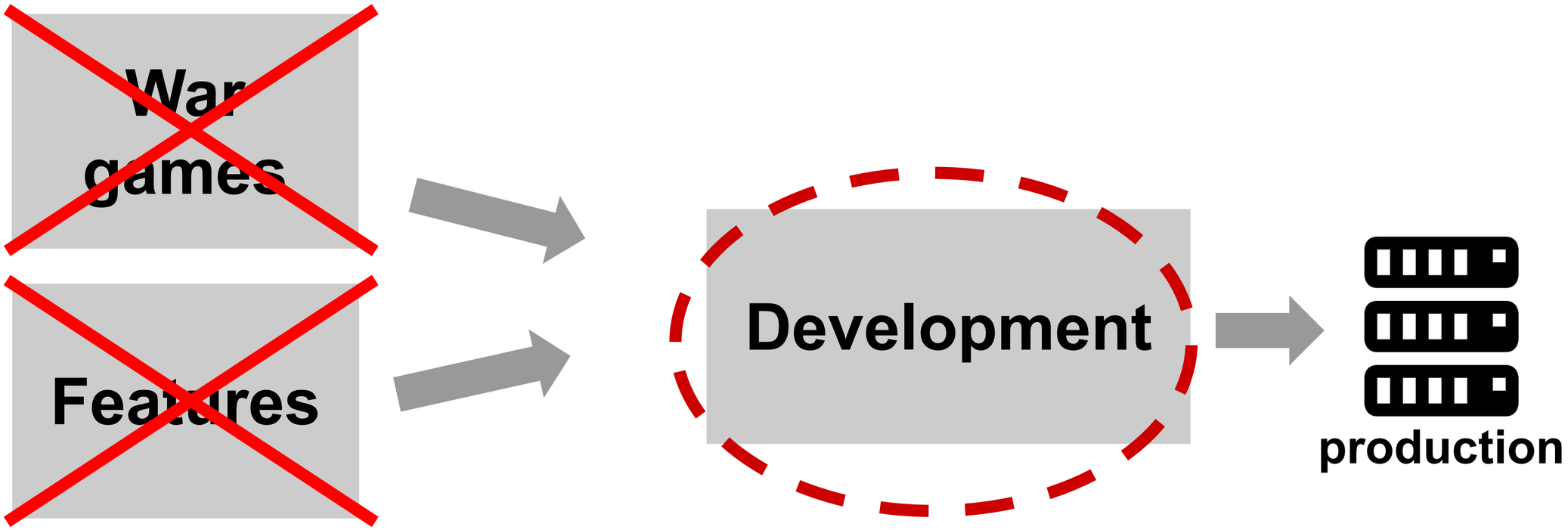
IT problems

Theory of Constraints

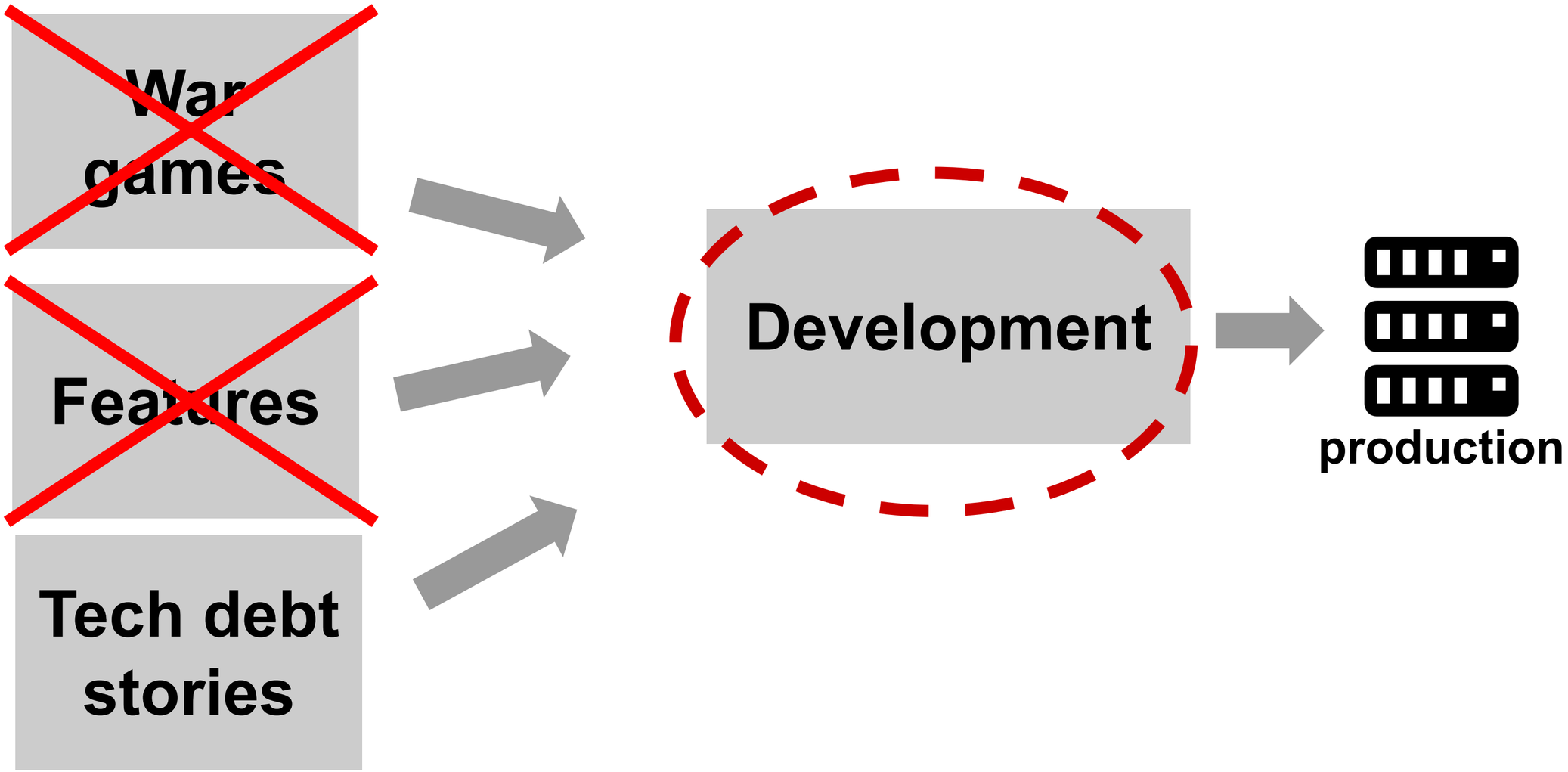
DevOps



Exploit: Keeping constraint 100% utilized



Exploit: Keeping constraint 100% utilized

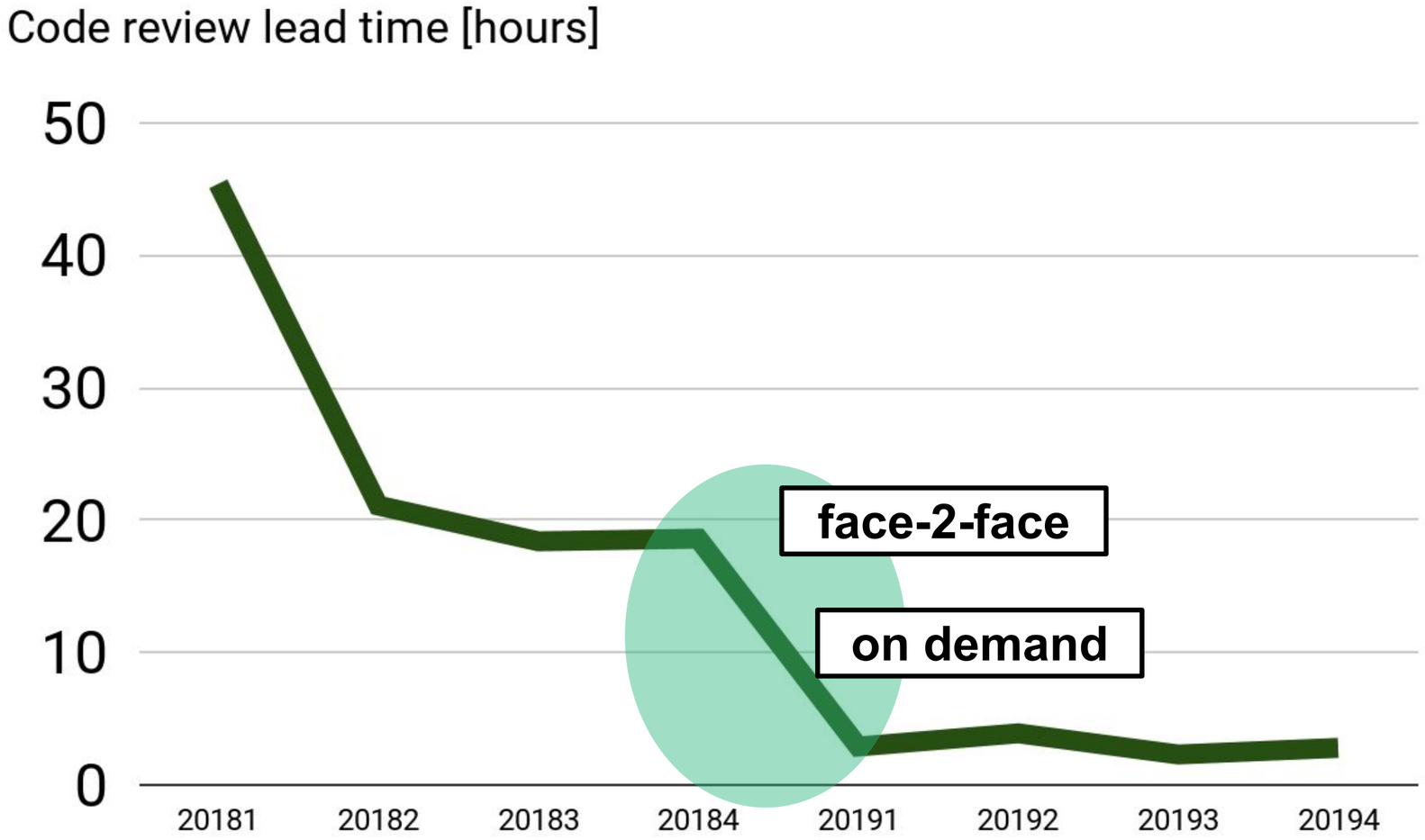


Elevate improve flow

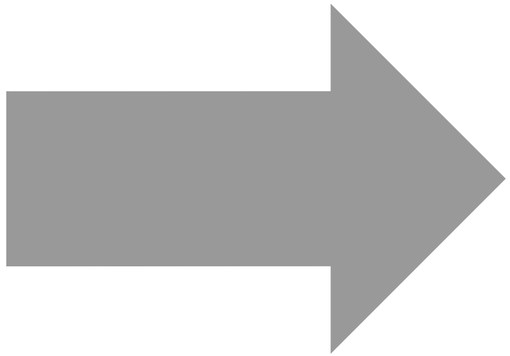
infrastructure
as code
automation!
tests!
monitoring
Build
quality in
logging

meat

Elevate: improve flow II



Subordinate



“No!”

~ 4-5 devs
~ 150 deployments

we vs Mr Kubica

Software delivery

feature

automation/tools

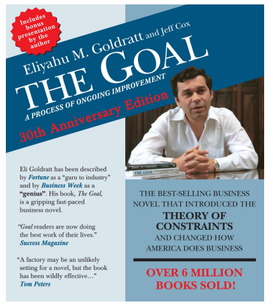
skills

utilization < 100%

WIP=1

Cycle time!

Changes?



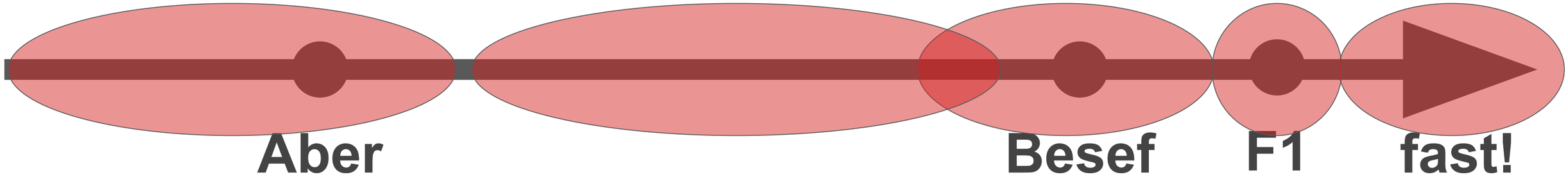
Costs increased

Winners (profit)!

Grill cycle time: **1s**

WIP = ?

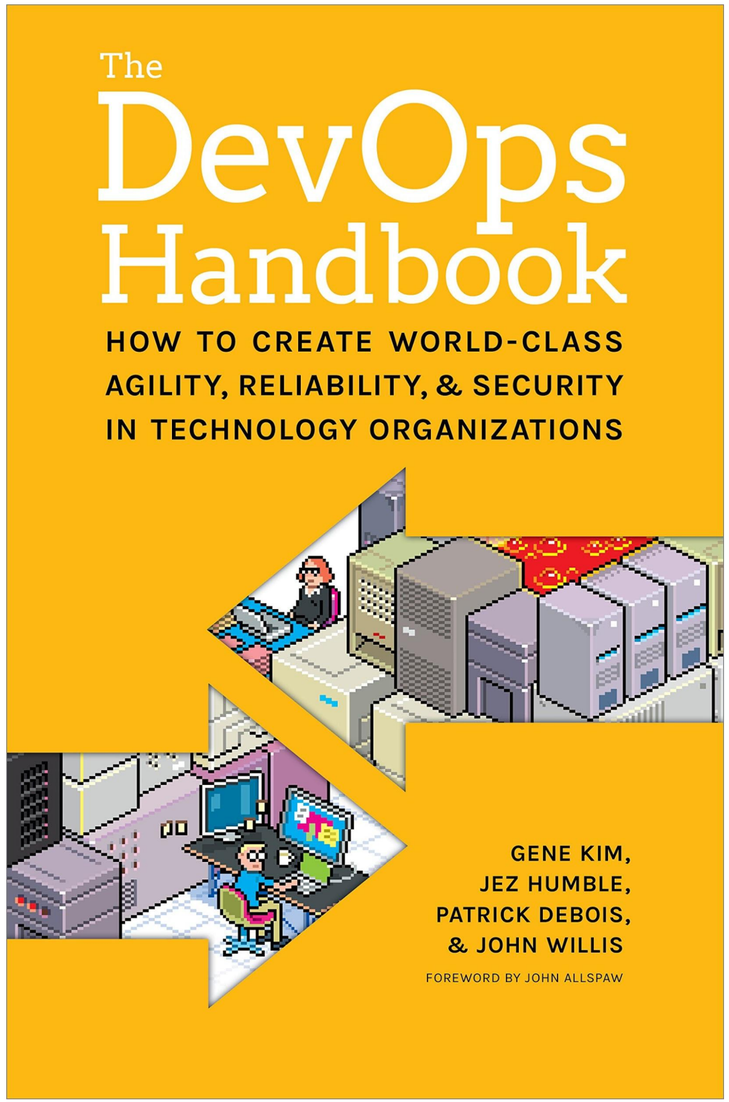
Moment of truth


Aber
Besef
F1
fast!

What next

tests → confidence

git flow → Trunk Based Development

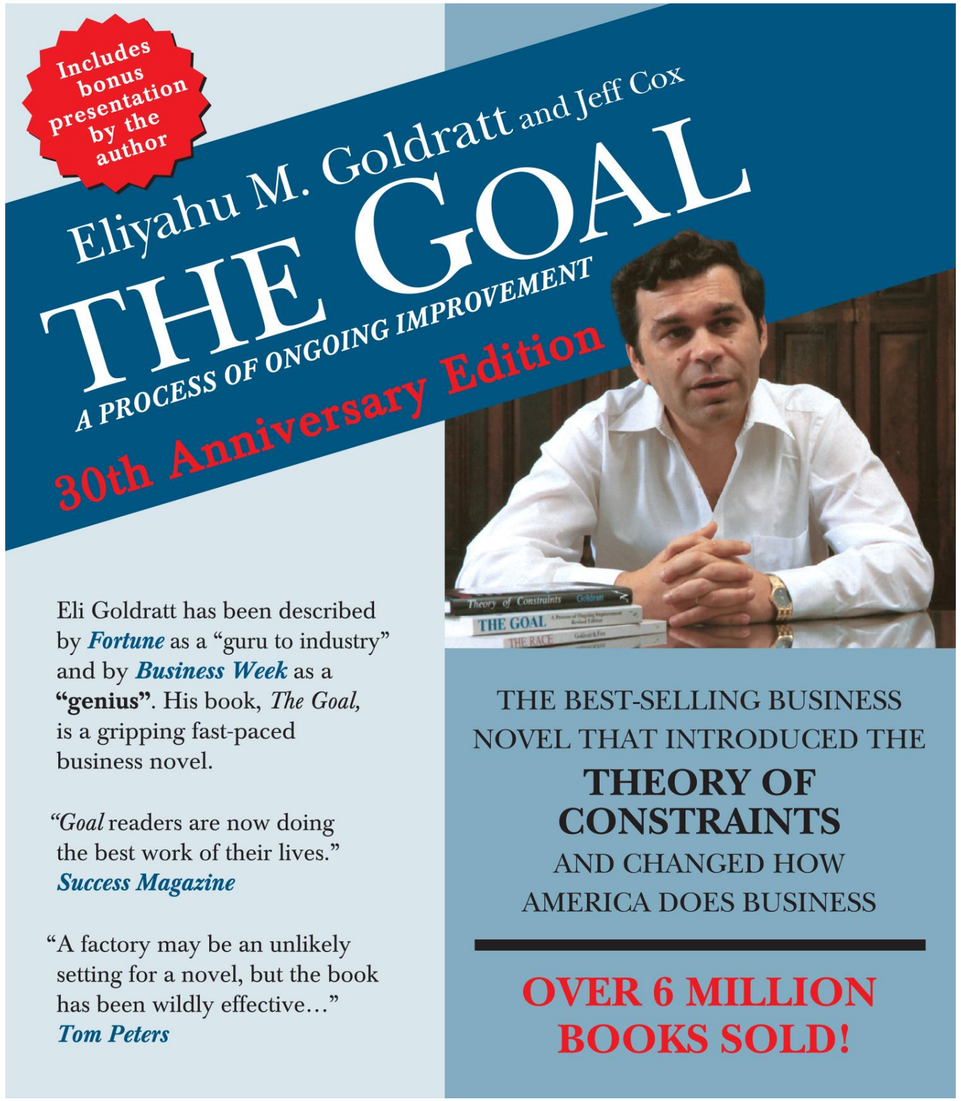


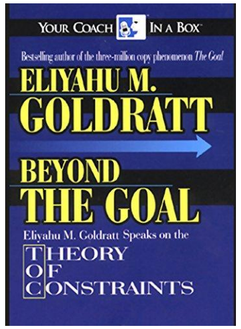
Page 151:

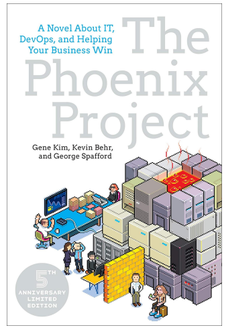
Trunk-based development *is likely most controversial practice discussed in this book. Many engineers will not believe that it's possible, even those that prefer working uninterrupted on a private branch without having to deal with other developers.*

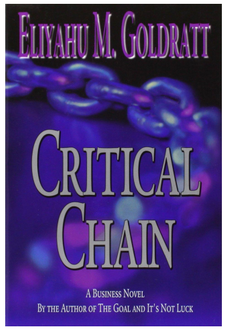
(...)

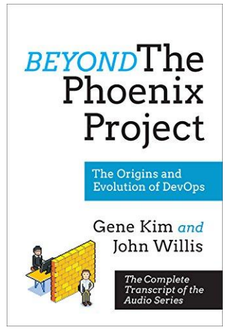
Continuous integration *practices set the stage for next step, which is automating the deployment process and enabling low-risk releases.*

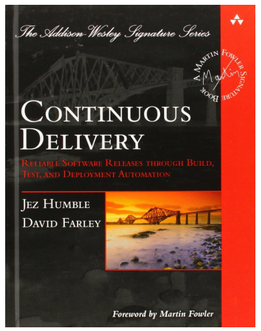

Includes bonus presentation by the author
Eliyahu M. Goldratt and Jeff Cox
THE GOAL
A PROCESS OF ONGOING IMPROVEMENT
30th Anniversary Edition
Eli Goldratt has been described by Fortune as a "guru to industry" and by Business Week as a "genius". His book, The Goal, is a gripping fast-paced business novel.
"Goal readers are now doing the best work of their lives." Success Magazine
"A factory may be an unlikely setting for a novel, but the book has been wildly effective…" Tom Peters
THE BEST-SELLING BUSINESS NOVEL THAT INTRODUCED THE
THEORY OF CONSTRAINTS
AND CHANGED HOW AMERICA DOES BUSINESS
OVER 6 MILLION BOOKS SOLD!

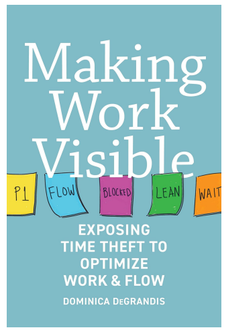

YOUR COACH IN A BOX
ELIYAHU M. GOLDRATT
BEYOND THE GOAL
Eliyahu M. Goldratt Speaks on the
THEORY OF CONSTRAINTS

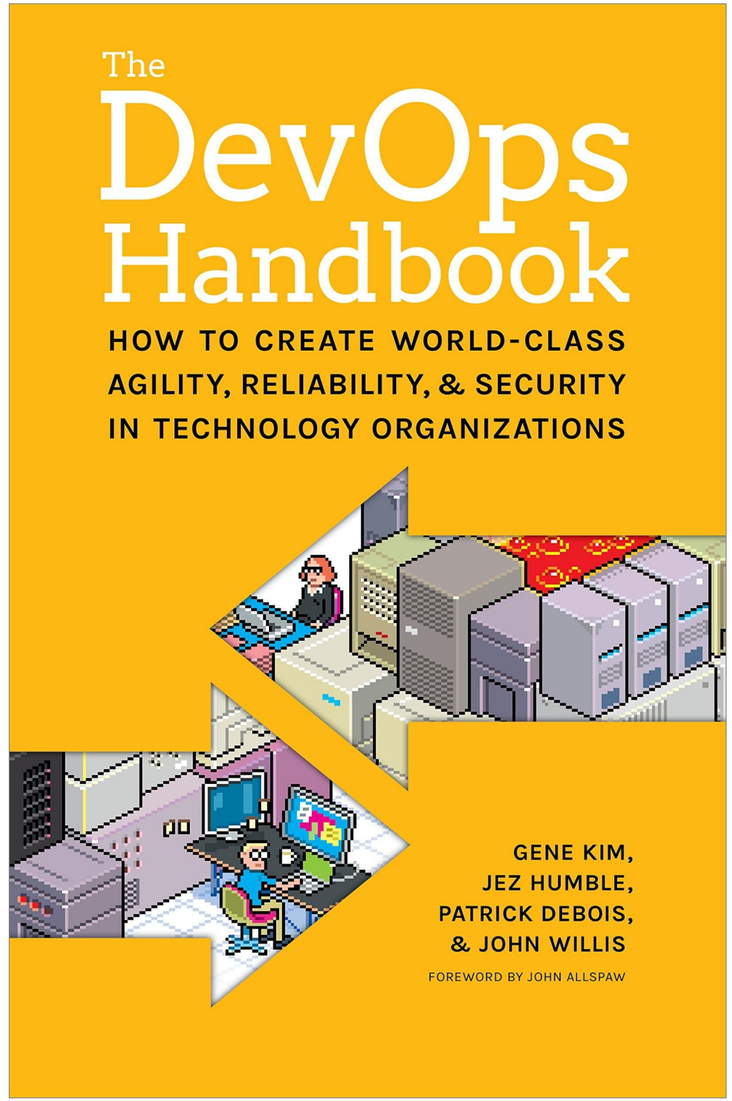

A Novel About IT, DevOps, and Helping Your Business Win
The Phoenix Project
Gene Kim, Kevin Behr, and George Spafford


ELIYAHU M. GOLDRATT
CRITICAL CHAIN
A Business Novel
By the Author of The Goal and It's Not Luck


BEYOND The Phoenix Project
The Origins and Evolution of DevOps
Gene Kim and John Willis
The Complete Transcript of the Audio Series


The Addison-Wesley Signature Series
CONTINUOUS DELIVERY
Reliable Software Releases through Build, Test, and Deployment Automation
Jez Humble
David Farley
Foreword by Martin Fowler


Making Work Visible
EXPOSING TIME THEFT TO OPTIMIZE WORK & FLOW
DOMINICA DeGRANDIS


The DevOps Handbook
HOW TO CREATE WORLD-CLASS AGILITY, RELIABILITY, & SECURITY IN TECHNOLOGY ORGANIZATIONS
GENE KIM,
JEZ HUMBLE,
PATRICK DEBOIS,
& JOHN WILLIS
FOREWORD BY JOHN ALLSPAW

Thanks!

Questions!

Konrad Otrębski

konradotrebski

kmotrebski

Slides & trip to Besef!

kmotrebski.github.io/phpcon