Prosessforbedring i store prosjekter

Temamøte 29 Oktober, Steria, Oslo

Torgeir Dingsøyr, Nils Brede Moe

Agenda

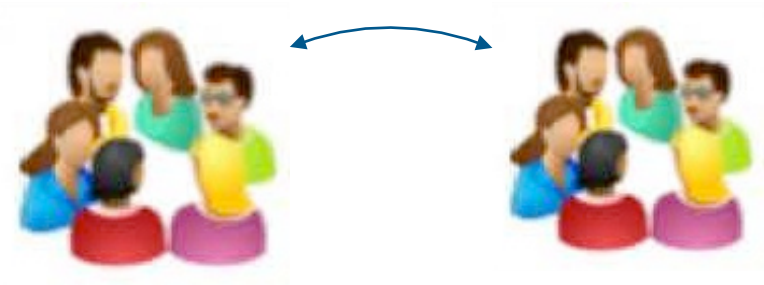
- Bakgrunn for temamøte
- Hva er store prosjekter?
- Hvorfor er dette interessant?
- Henrik Kniberg: Prosessforbedring i stort prosjekt: Rikspolisstyrelsen (PUST)
- Spørsmål og diskusjon
- Neste temamøter
- Lunch

Prosessforbedring med smidige metoder

- Smidige metoder for global utvikling
  - *DNV GL Software*, Fara, Storebrand, SINTEF
- Agile 2.0
  - Kantega, Kongsberg Defence&Aerospace, Steria, NTNU, *SINTEF*
- Sikkerhetskritisk smidig utvikling
  - *Autronica*, Kongsberg Maritime, SINTEF

- Formål med temamøte:
  - Inspirere til å jobbe med prosessendringer
  - Møte andre bedrifter som planlegger eller er i gang med endringer

Hva er store prosjekter?



- Koordineringsutfordring og løsninger også relevant for
  - Distribuerte prosjekt
  - Prosjekt med mange koblinger til andre prosjekter

Dingsøyr, T., Fægri, T. E., and Itkonen, J., "What is Large in Large-Scale? A Taxonomy of Scale for Agile Software Development," accepted for pu

currents [trends, people, projects

Features Editor: Dale Strok ■ dstrok@computer.org

The Top 10 Burning Research Questions from Practitioners

Sallyann Freudenberg and Helen Sharp

“Agile and large projects” rangert som topp prioritert forskningsområde

head-on in the context of agile software development in a panel entitled “Is Agile Research Dead in the Water?” The panel and audience identified a worrying disconnect between the research that is taking place and the practitioner community on which it’s based and for which it’s produced. Some of the issues raised included the somewhat difficult-to-digest way researchers sometimes write and present findings, the time lag between a question being of interest and the stringent research results being published, and the difficulty of gaining funding for relevant research in this area.

However, the main concern centered on the con-

titioners present to write down the most pressing question or issue that they’d like to be researched. We collected and displayed them on a notice board (see Figure 1) to let anyone interested vote on their favorites during the day. About 300 practitioners were at the conference, and we received about 60 different suggestions.

We then used the number of votes cast as a way to organize the issues into a prioritized list: the item with the most votes was at the top and those with no votes (although someone had obviously created them) at the bottom.

What Rose to the Top?

This backlog makes interesting reading. Some ideas were quite ambitious, and likely to have a complex and context-dependent response—for example, “using Kanban in globally distributed teams” and “how to adopt agile/lean.” Other suggestions were specific to an issue practitioners face every day. Some were more readily researchable using traditional research methods, such as “what is the

0740-7459/10/$26.00 © 2010 IEEE

Forskningsagenda

Table 1. Suggested research agenda on large-scale agile software development.

Rank	Topic	Description
1	Inter-team coordination	Coordination of work between teams in large-scale agile development.
2	Large project organization / portfolio management	What are effective organizational structures and collaboration models in large projects? How to handle a distributed organization?
3	Release planning and architecture	How are large projects planned? How can the scope be reduced? What is the role of architecture in large-scale agile?
4	Scaling agile practices	Which agile practices scale and which do not? Why and when do agile practices scale?
5	Customer collaboration	How do product owners and customers collaborate with developers in large-scale projects?
6	Large-scale agile transformation	How can agile practices be adopted efficiently in large projects?
7	Knowledge sharing and improvement	When is the whiteboard not enough? How can communities of practice be established? What measurements are relevant to foster improvement?
8	Agile contracts	How can contracts change the mindset of customers from upfront planning to agile principles? What legal limitations exist in contracts that reduce agility in large projects?

Dingsøyr, T. and Moe, N. B., "Research Challenges in Large-Scale Agile Software Development," *ACM Software Engineering Notes*, vol. 38, pp. 38-39, 2013.

Lean from the Trenches

Oslo, 29 okt 2014

Henrik Kniberg

henrik.kniberg@crisp.se

@HenrikKniberg

Consultant

crisp

www.crisp.se

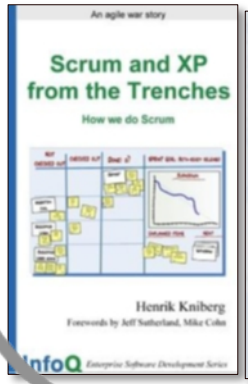
Parent

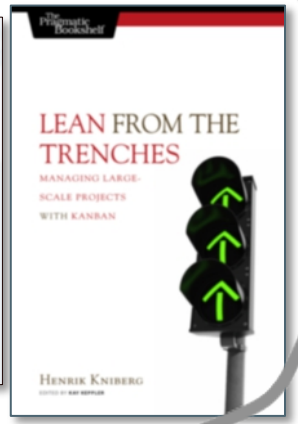
Organizational coach & mentor

Spotify

skype

Author

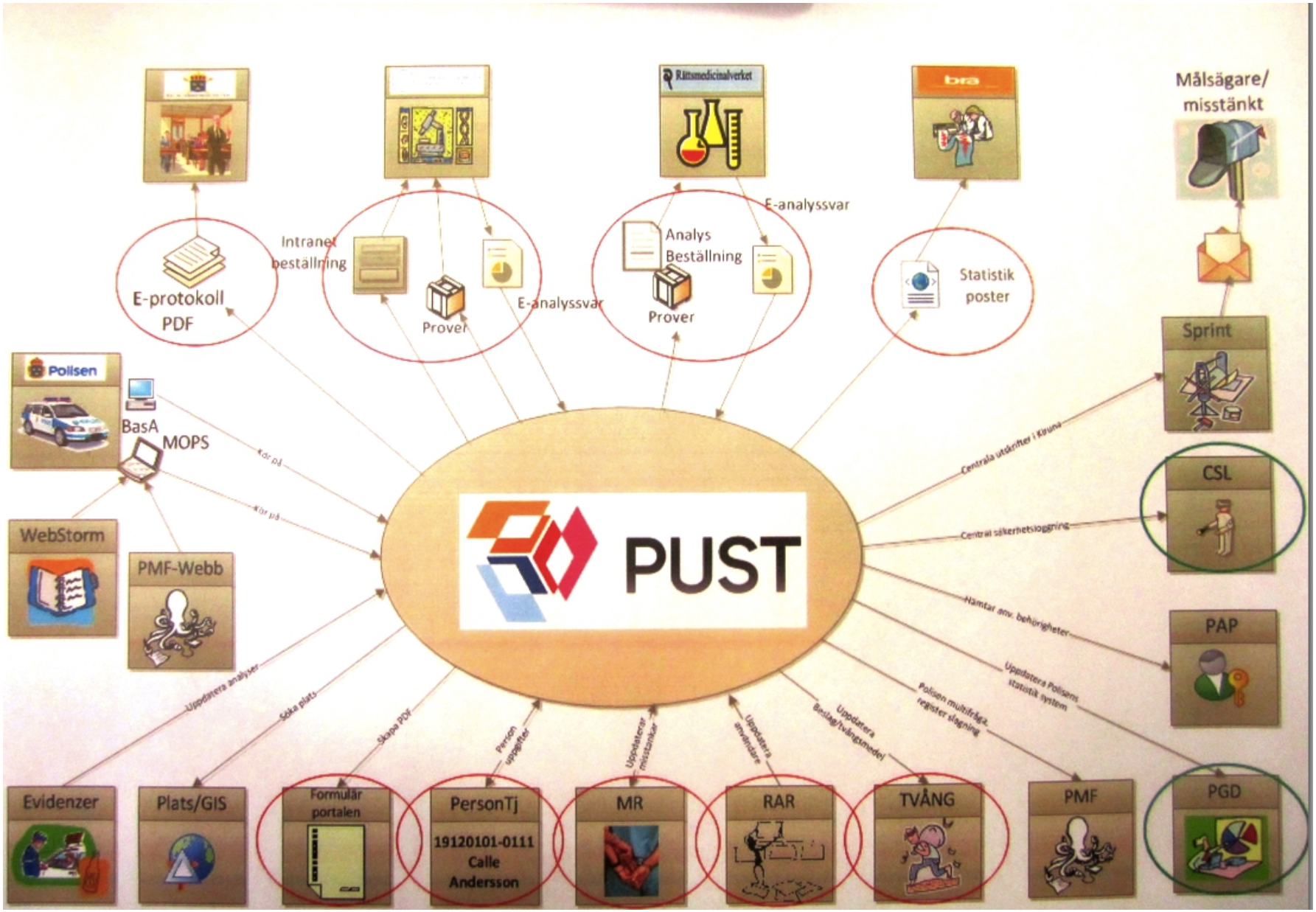




Once upon a time...

PUST – Polisens UtredningsSTöd

Henrik Kniberg

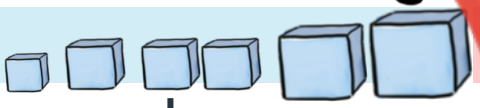

Rättsmedicinalverket
bra
Målsägare/
misstänkt
E-protokoll
PDF
Intranet
beställning
Prover
E-analyssvar
Analys
Beställning
Prover
E-analyssvar
Statistik
poster
Sprint
Polisen
BasA
MOPS
WebStorm
PMF-Webb
PUST
CSL
PAP
PGD
Evidenzer
Plats/GIS
Formulär
portalen
PersonTj
19120101-0111
Calle
Andersson
MR
RAR
TVÅNG
PMF

Pust Java

Agile/Lean

Pust Siebel

Waterfall



2010 2011 2012 2013

Finalist

CIO Awards 2011

ÅRETS PROJEKT
RIKSPOLISSTYRELSEN
PUST

Polisen utreder betydligt snabbare med ny metod

PODCAST | VIDEO | OPINION | EVENT | BLOGGAR | NYHETSBREV | CS JOBB | IT24 | SÄKERH

Publicerad 2014-01-23

Polisens skyddsombud kräver att Pust stoppas

Av Marcus Jerräng

f 12 | 3 | in | g+ 2

Samtliga huvudskyddsombud h
användningen av det kritiserad

ANNONS

SvD NÄRINGSLIV

START | BÖRS | BÖRSFORUM | NYHETER | PENGAR | SÖK FÖRETAG

Sverige | Världen | Digitalt | Livsstil | Quiz | Sök jobb | SvD Offert | Tränings

Polisen skrotar buggigt IT-system

Efter hård kritik skrotar polisen IT-systemet Pust Siebel, som kostat mi kronor att utveckla.

20 februari 2014 kl 16:30 , uppdaterad: 20 februari 2014 kl 16:51

- Det är ett misslyckande, säger Lars Lindahl, avdelningschef på Rikspolisstyrelsen.

Missnöjet bland poliserna har kokat över för länge sedan. Tanken var att Pust Siebel, som används till trafikbrott och vissa enklare brott, skulle ersätta två föråldrade system. Men poliser har fastnat vid datorkrångel i timmar.

BLALJUS

Nyheter | Om blaljus.nu | Länkar

Publicerat 2013-04-22 11:10

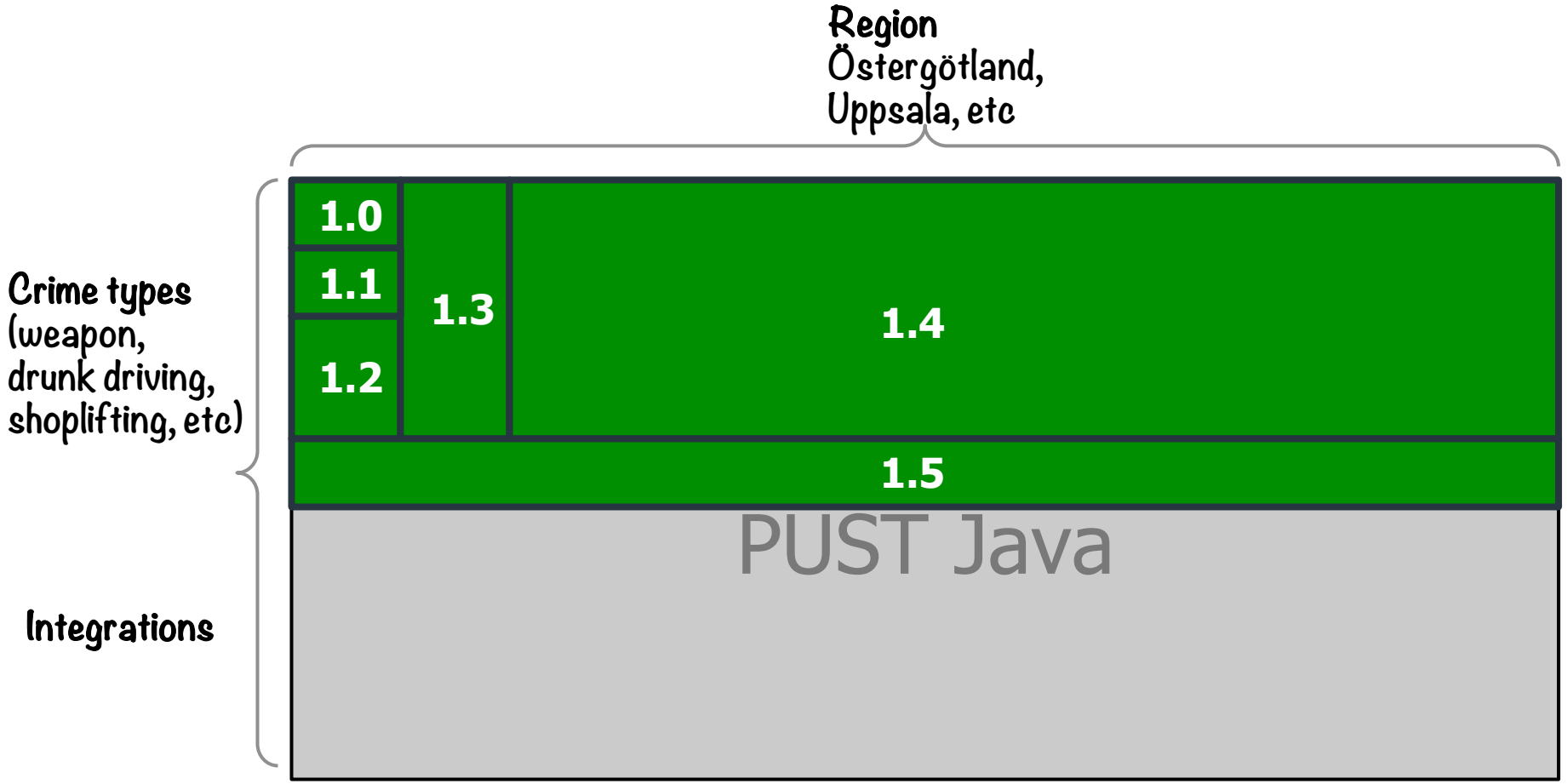
Kostnaden för PUST Siebel – 10 miljarder?

Styrning via kvartalsrapporter?

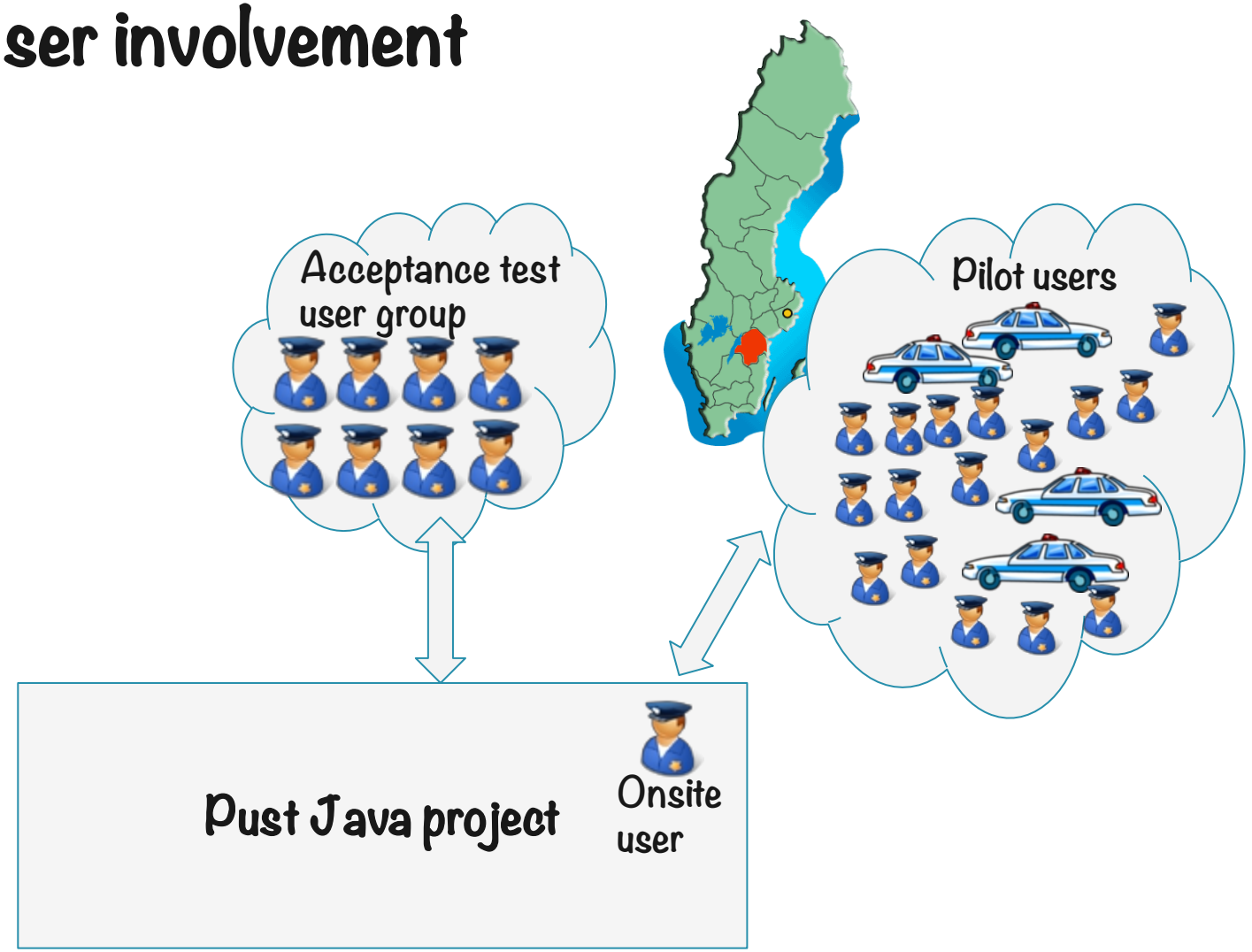
I en organisation som verkar styras mer efter kvartalsrapporter (dels genom våra "mål", men

Henrik Kr

Slice the elephant!

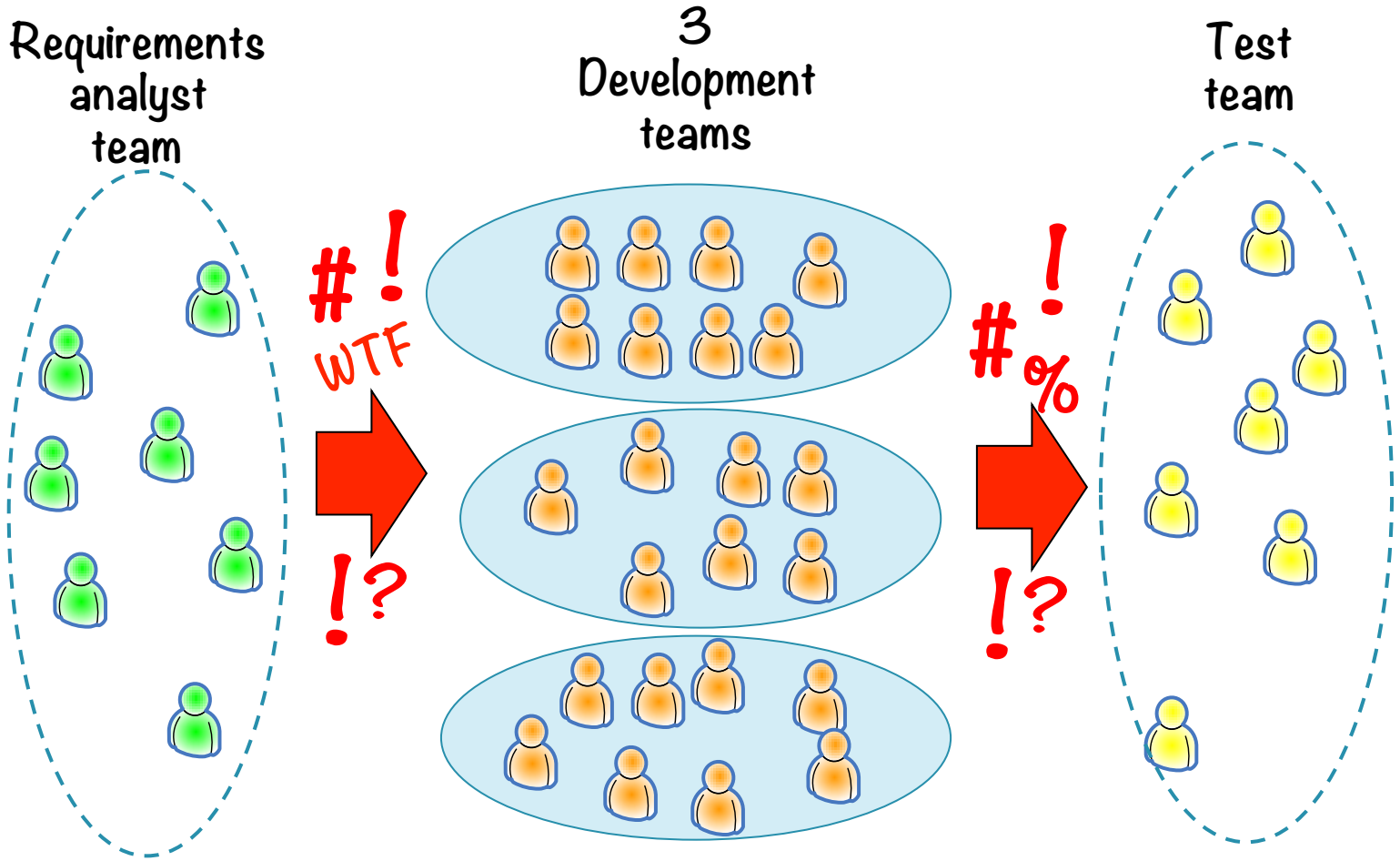


User involvement

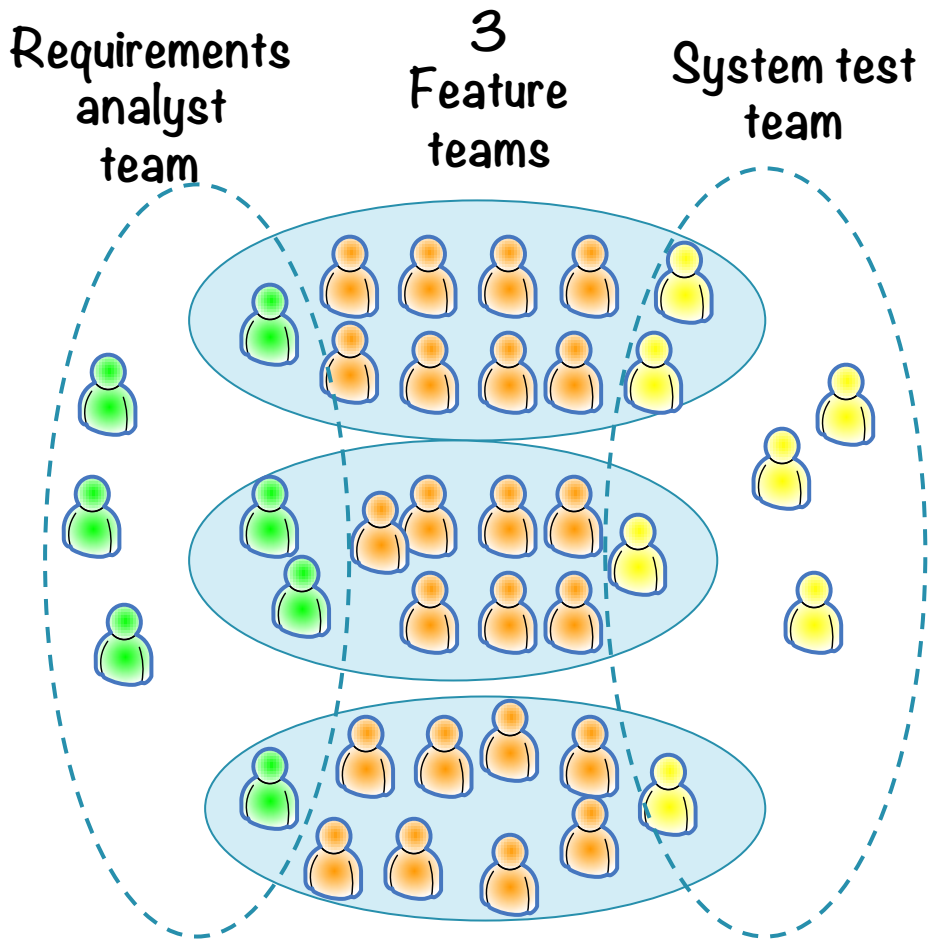


Team structure

Team structure - before

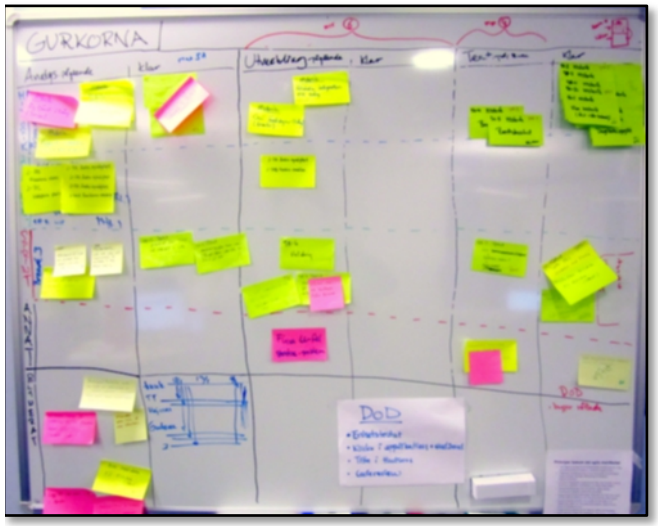


Improved team structure



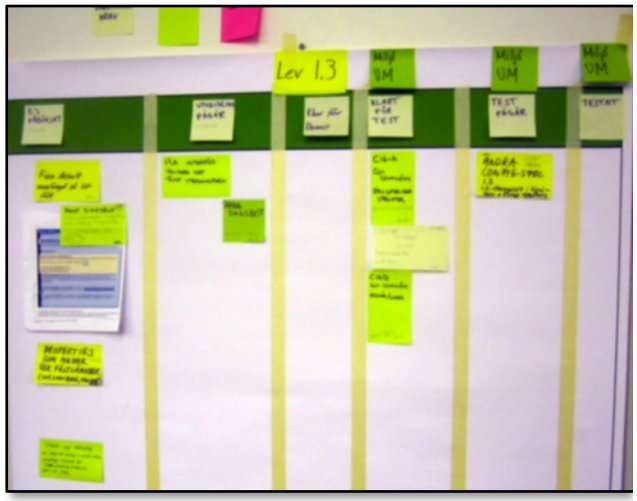
The project board

Dev Team 1



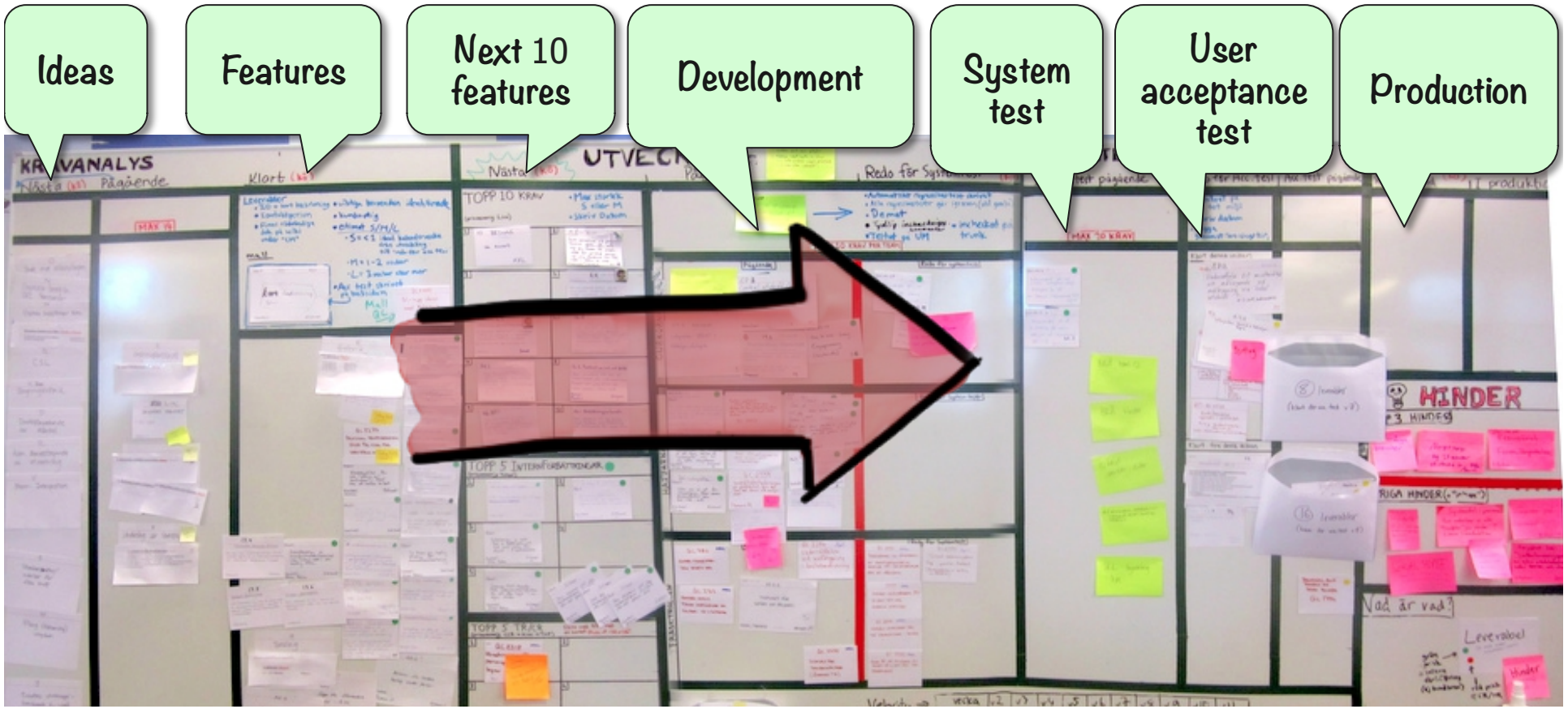
Dev Team 2

Dev Team 3



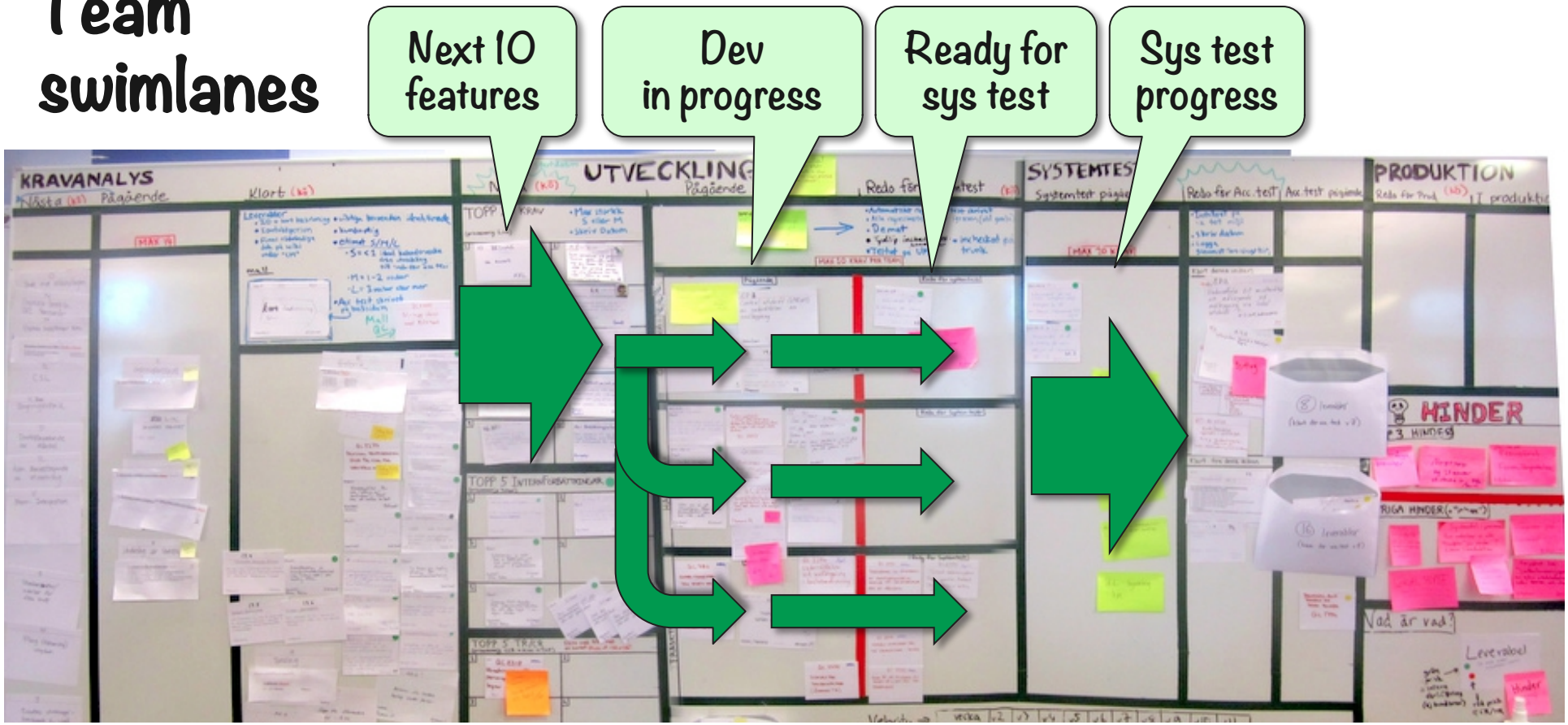
Henrik Kniberg

Henrik Kniberg



Henrik Kniberg

Team swimlanes



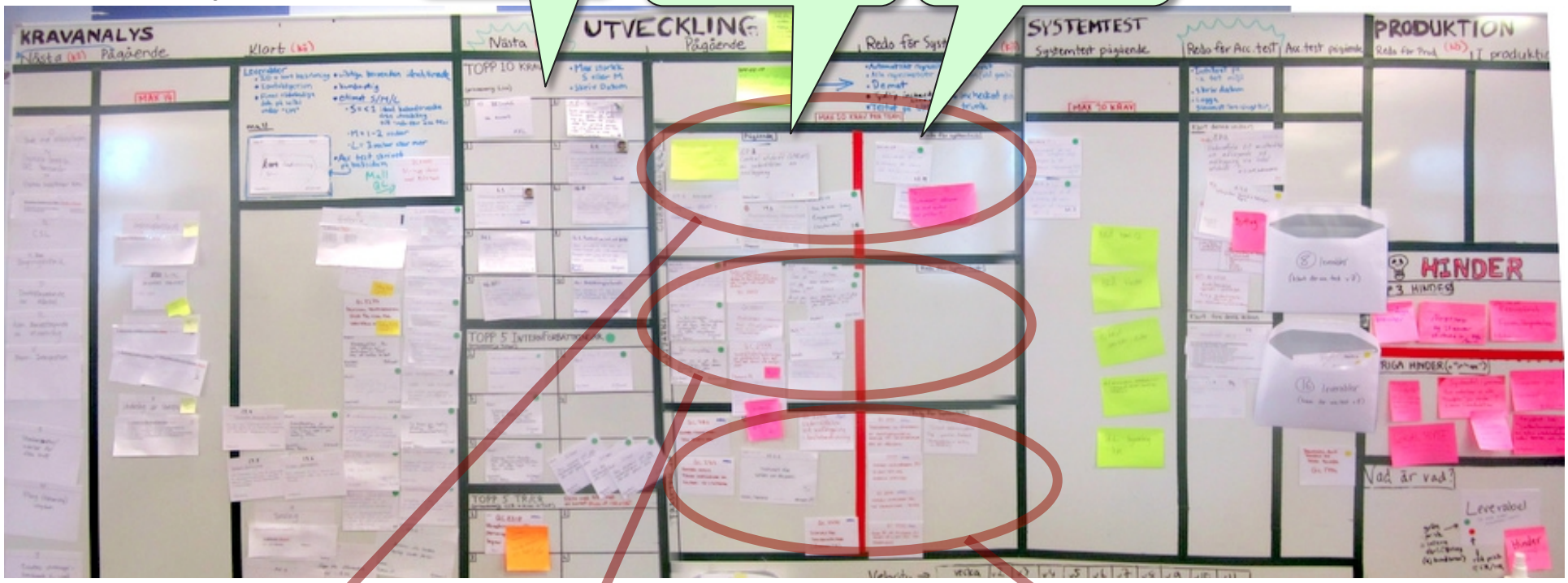
Henrik Kniberg

Team swimlanes

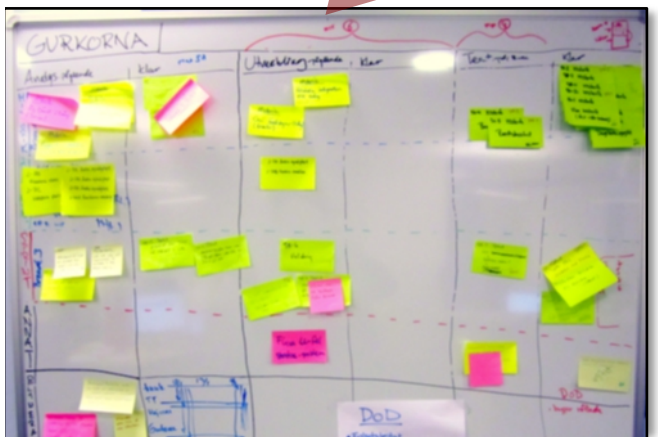
Next 10 features

Dev in progress

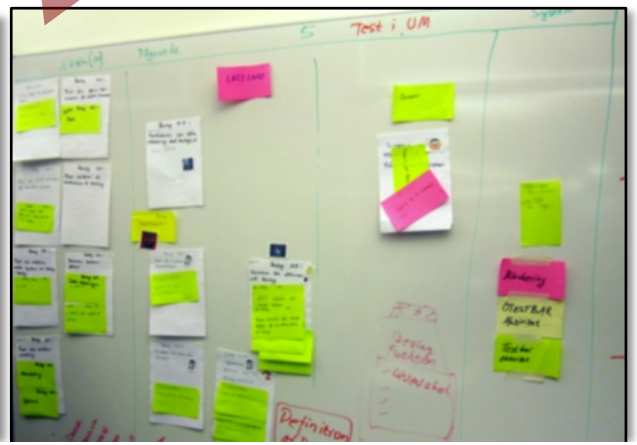
Ready for sys test



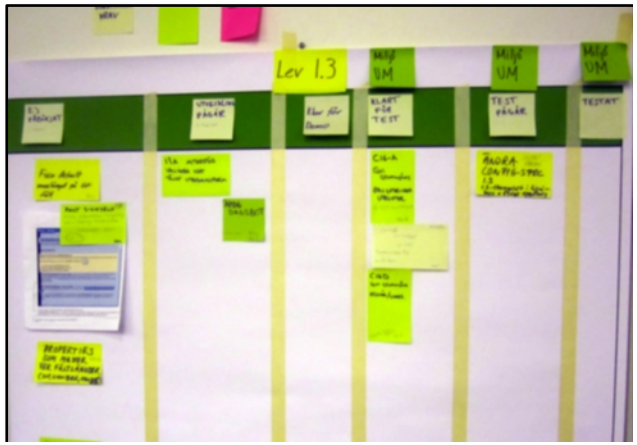
Dev Team 1



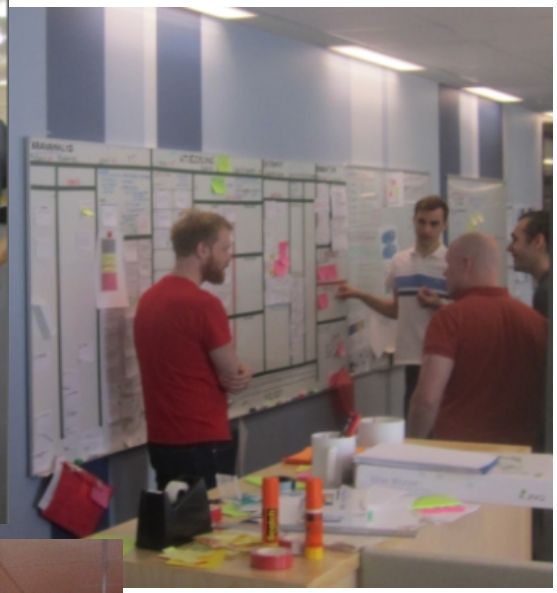
Dev Team 2

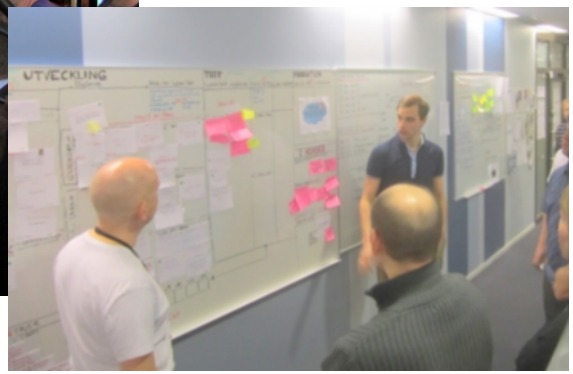


Dev Team 3



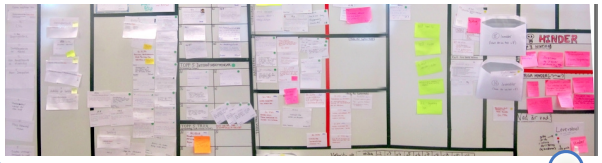
”Daily cocktail party”





Henrik Kniberg

10:00 – 10:15



Project sync

9:45 – 10:00

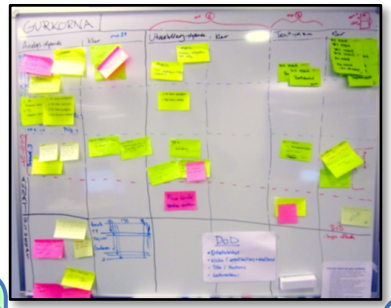
Test sync

9:45 – 10:00

Requirements sync

Dev sync

9:30 – 9:45

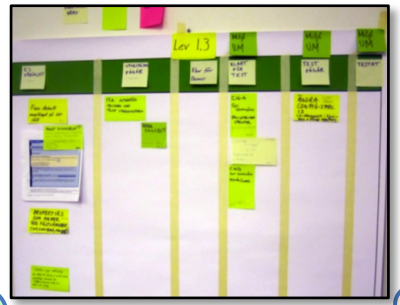


Feature team 1

9:30 – 9:45

Feature team 2

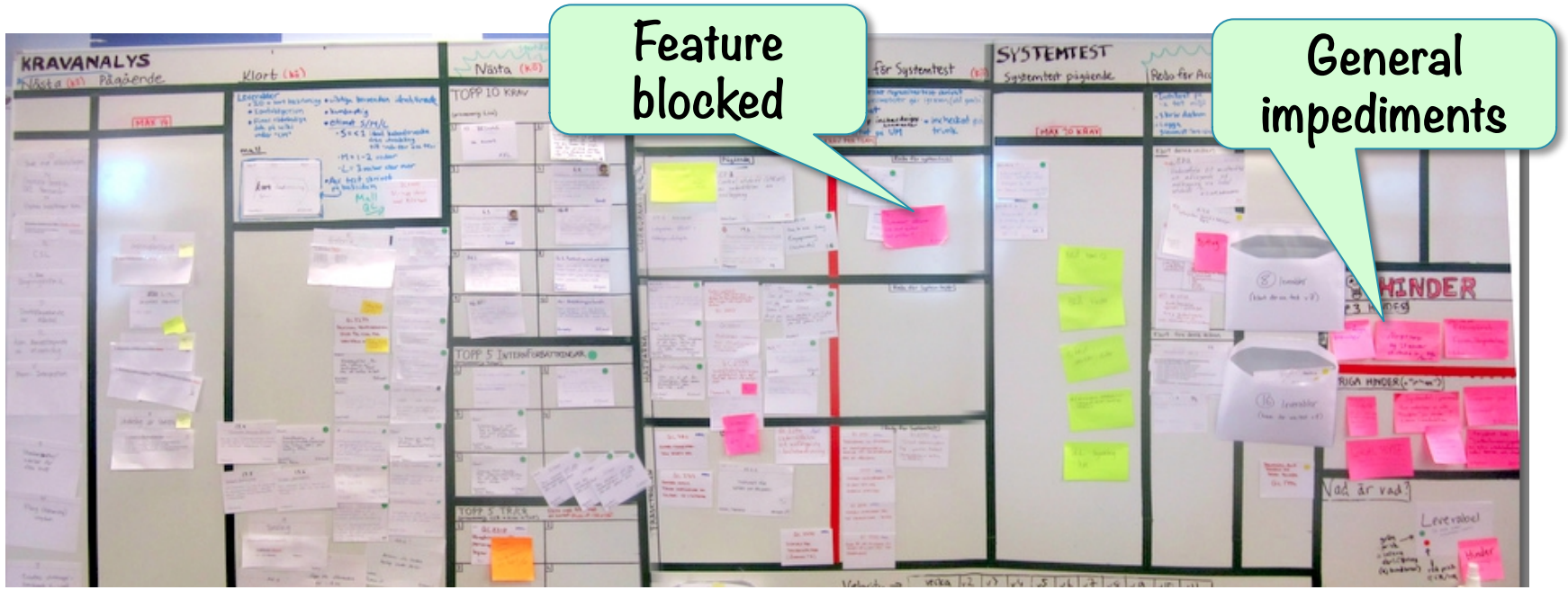
9:15 – 9:30

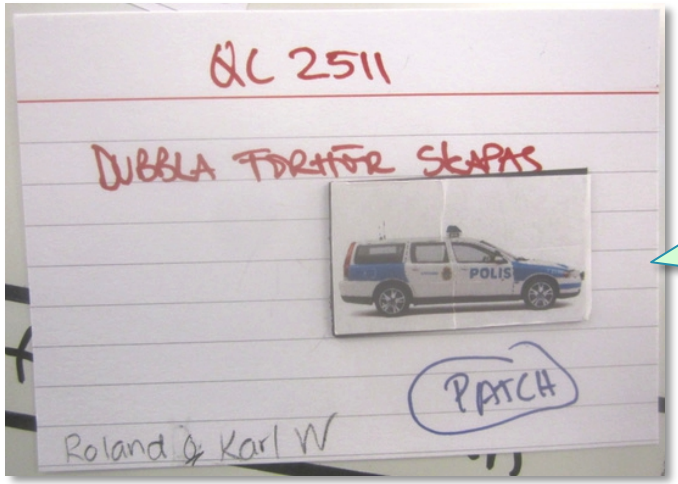


Feature team 3

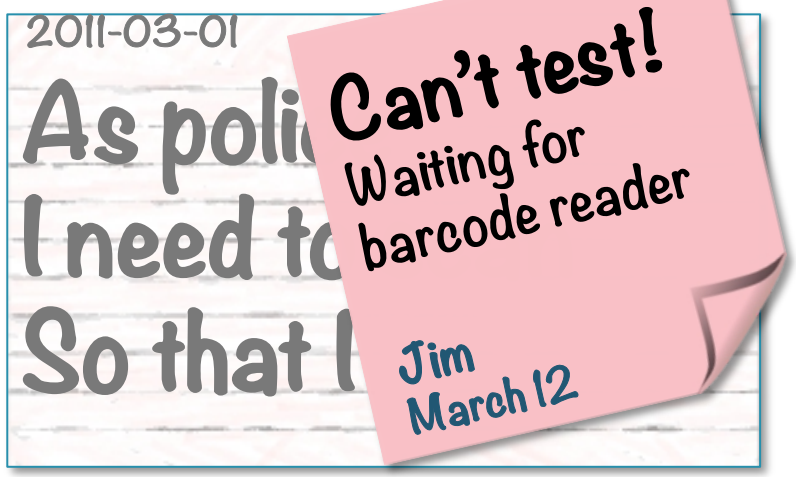
Henrik Kniberg

Impediments & escalation





Police car = urgent

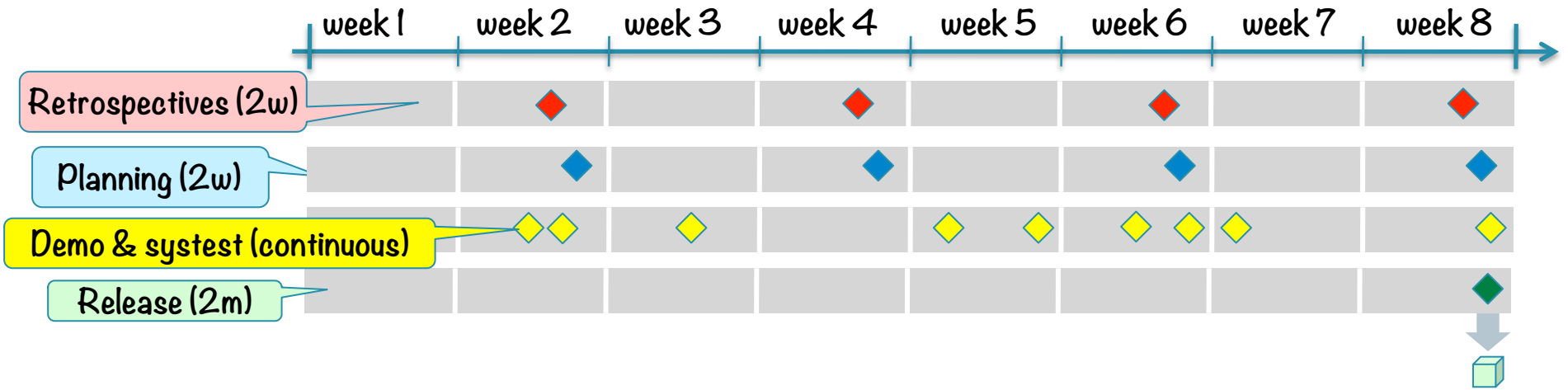


Henrik Kniberg

Just-in-time planning

Henrik Kniberg

Cadences

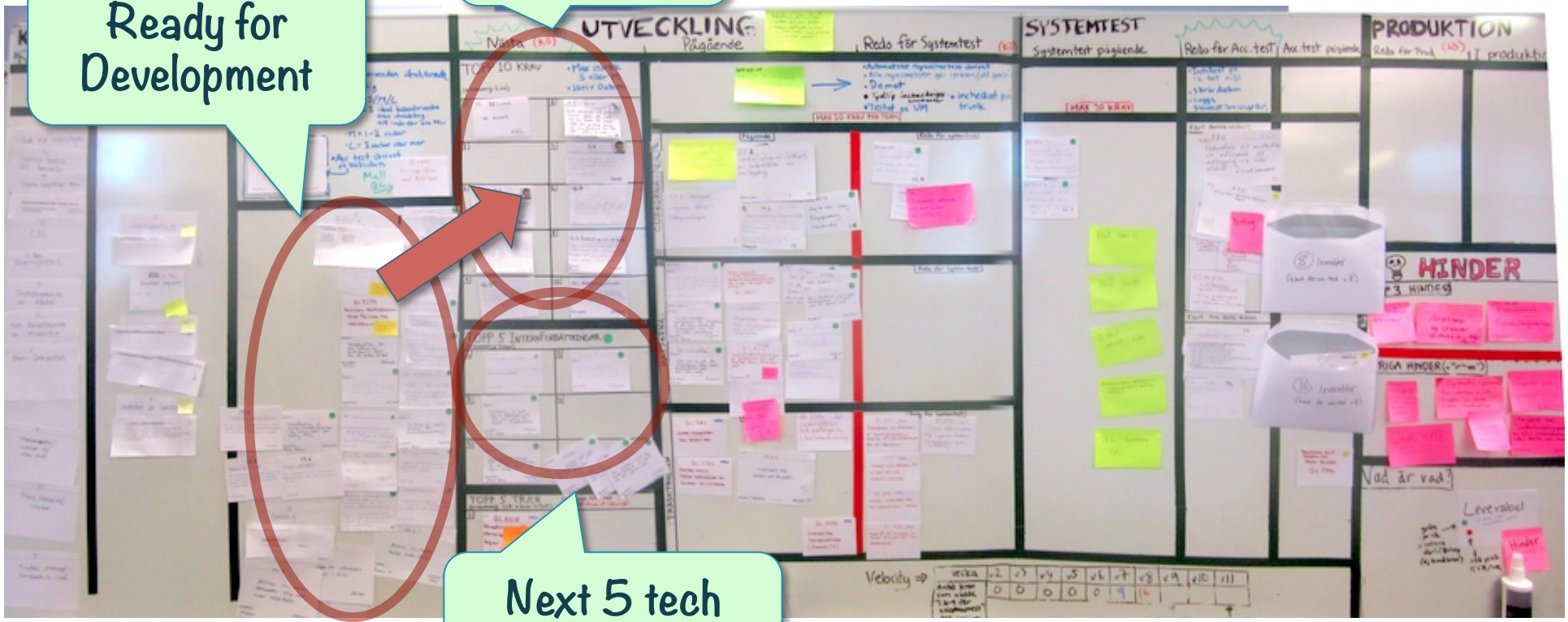

week 1
week 2
week 3
week 4
week 5
week 6
week 7
week 8
Retrospectives (2w)
Planning (2w)
Demo & systest (continuous)
Release (2m)

How we handle tech stories

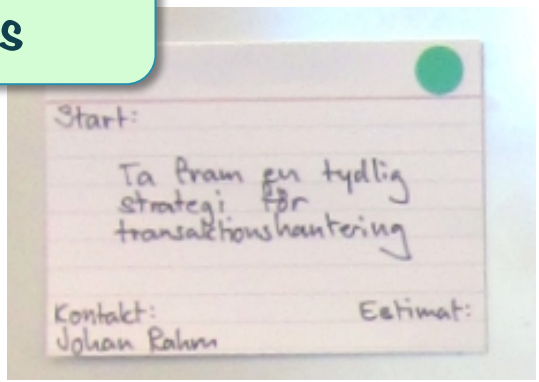
Tech stories

Next 10 features

Ready for Development



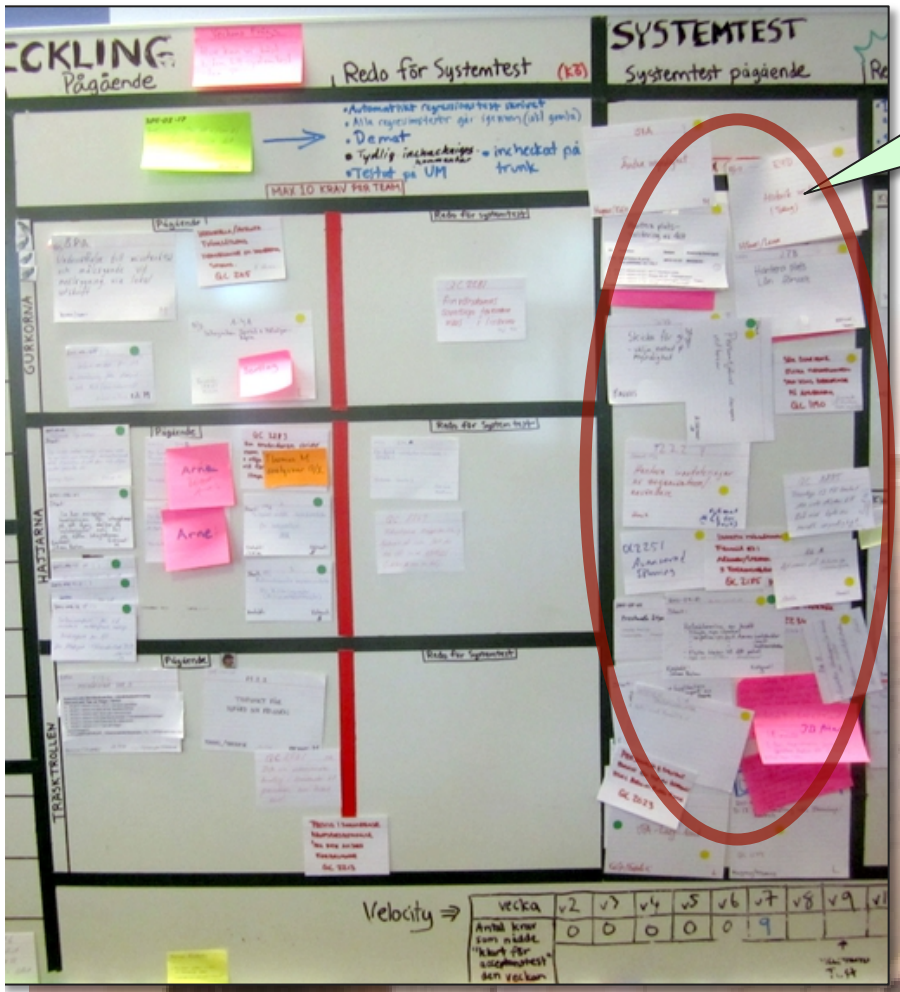
Next 5 tech stories



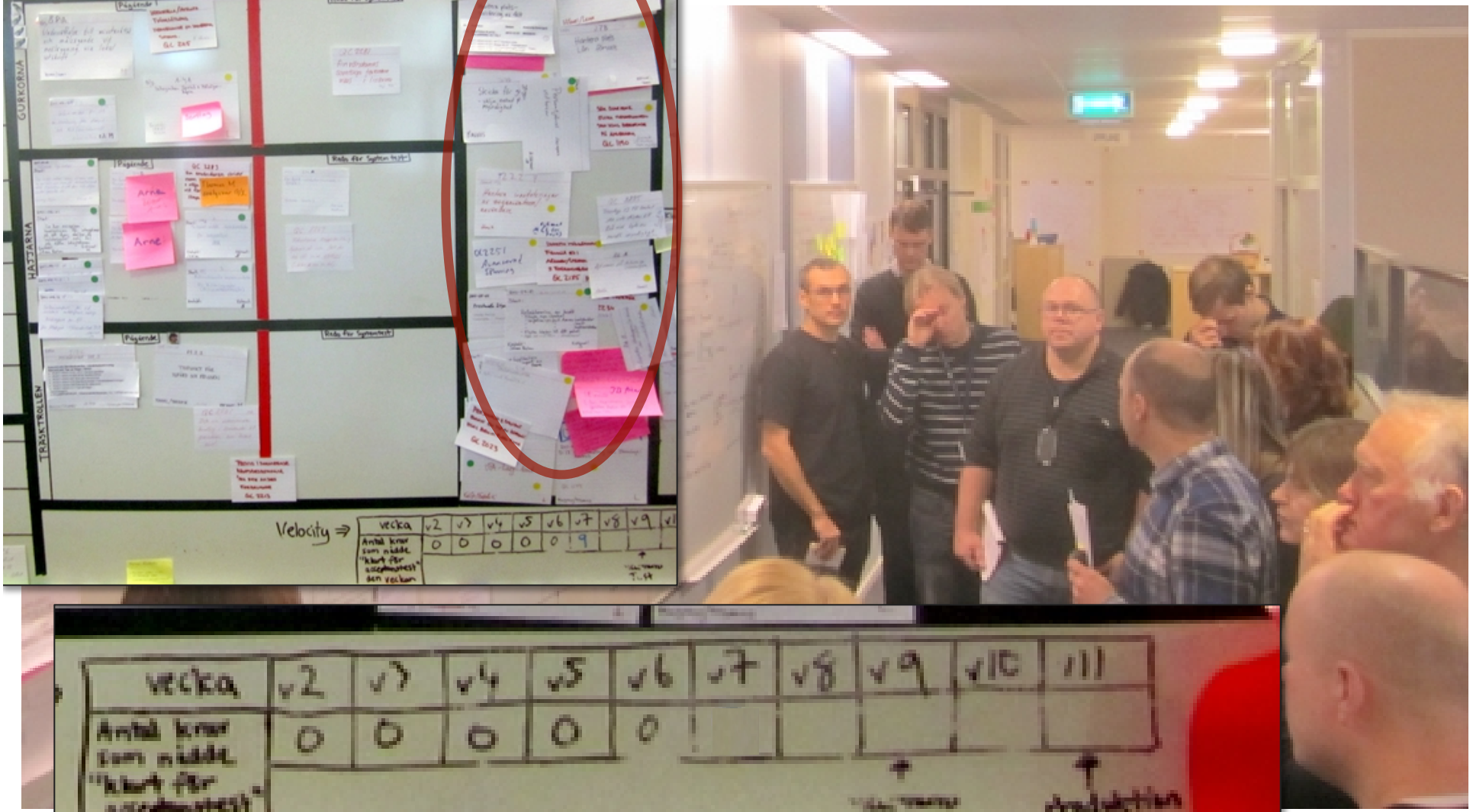
Henrik Kniberg

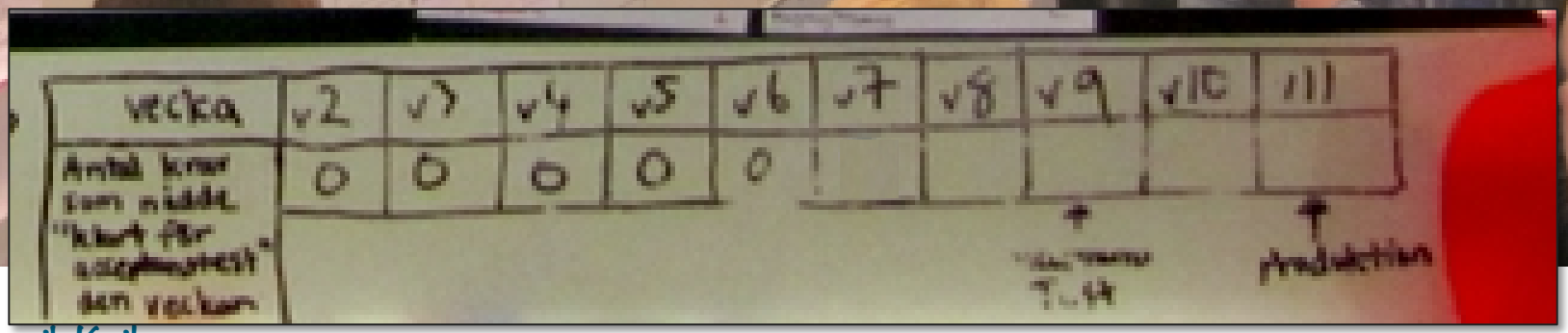
Example: the 7 meter class

Henrik Kniberg

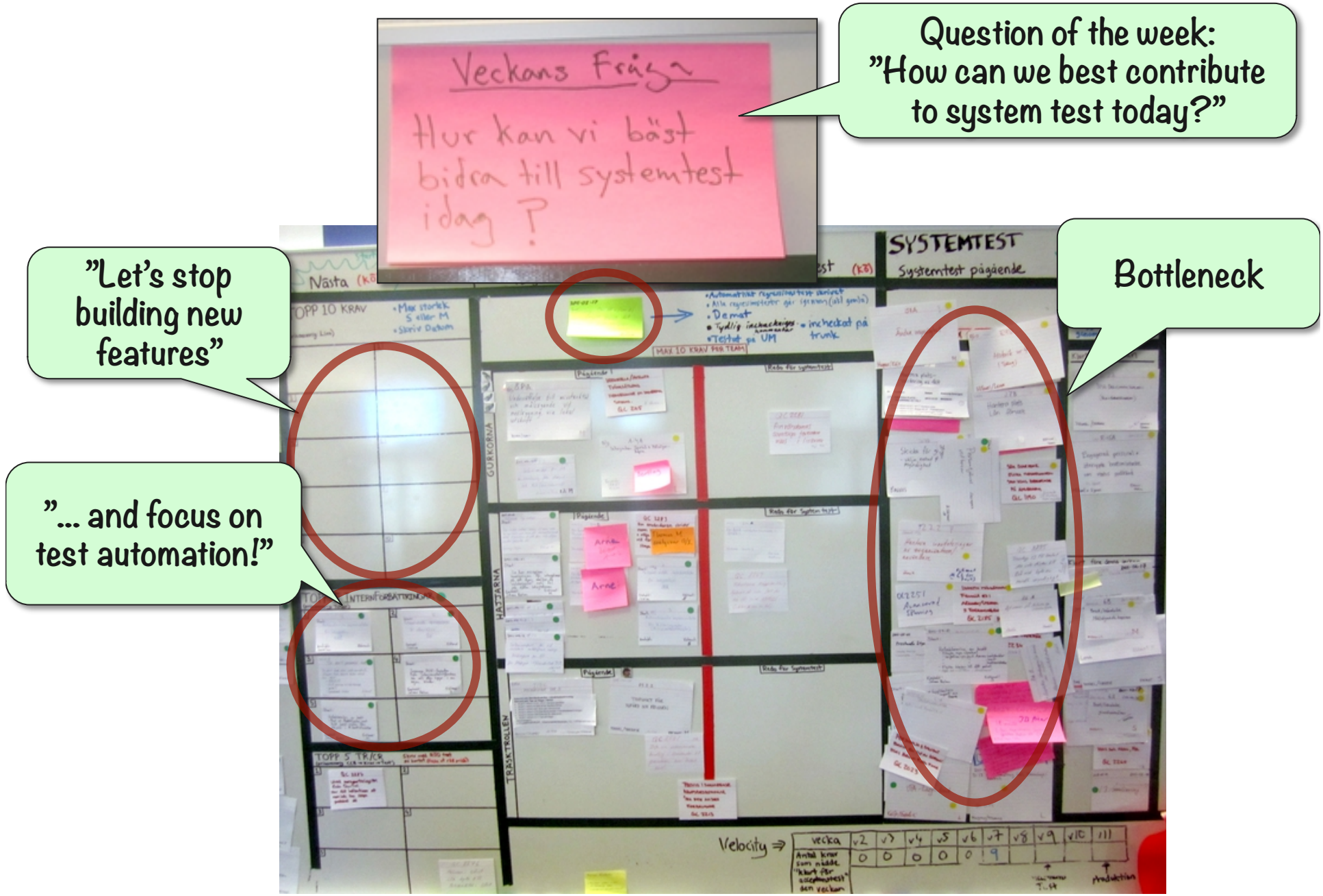


"Oh no, bottleneck in System Test!





Henrik Kniberg



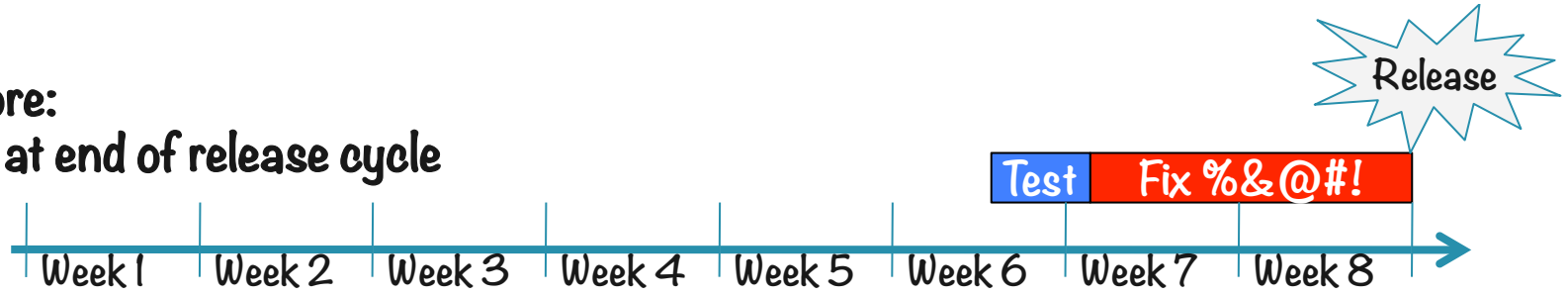
Henrik Kniberg

Henrik Kniberg

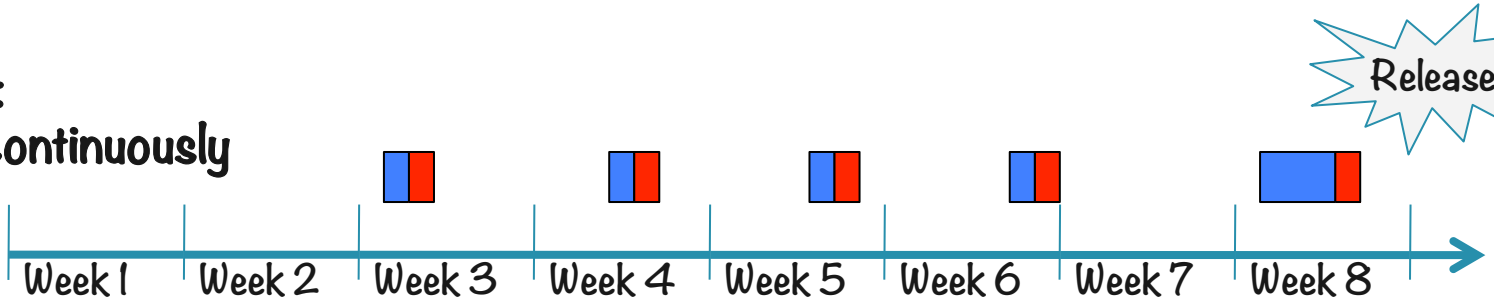
Henrik Kniberg

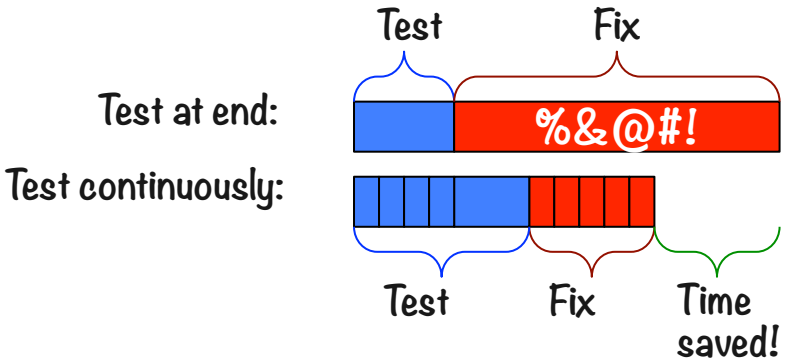
How we handle bugs

Before:
Test at end of release cycle

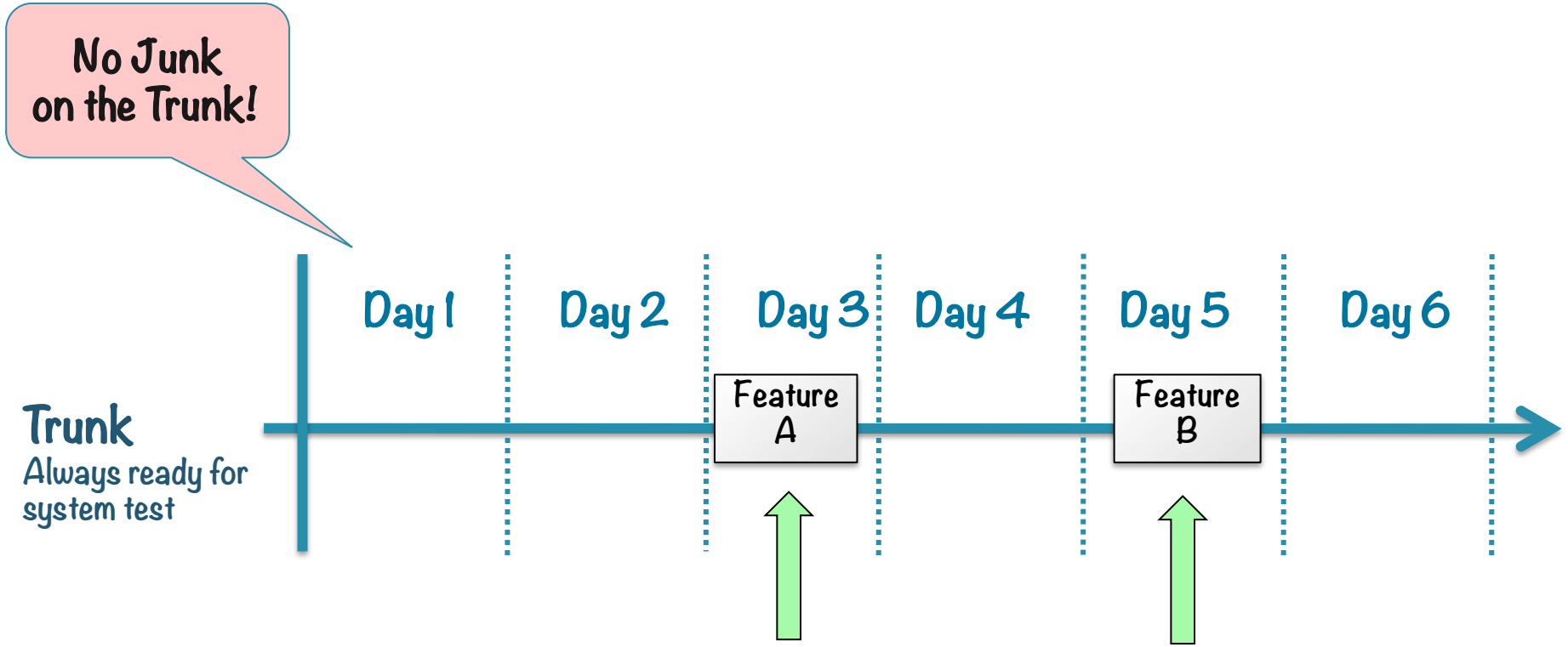


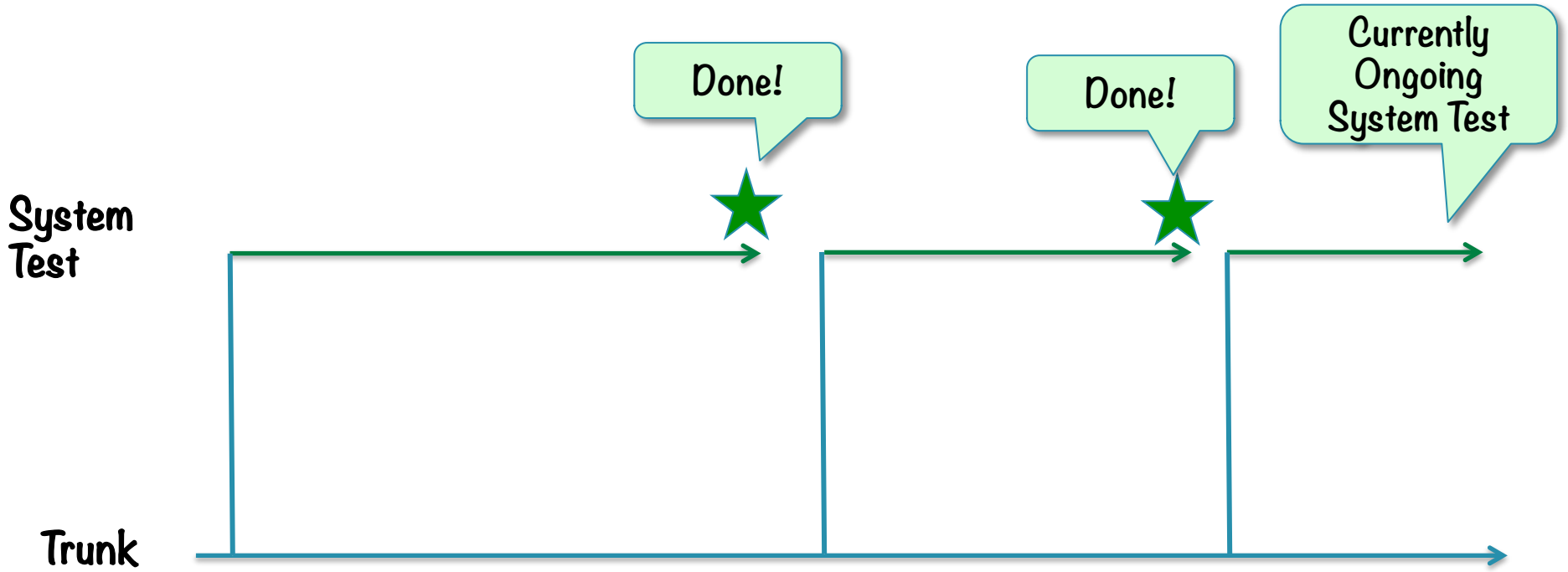
After:
Test continuously



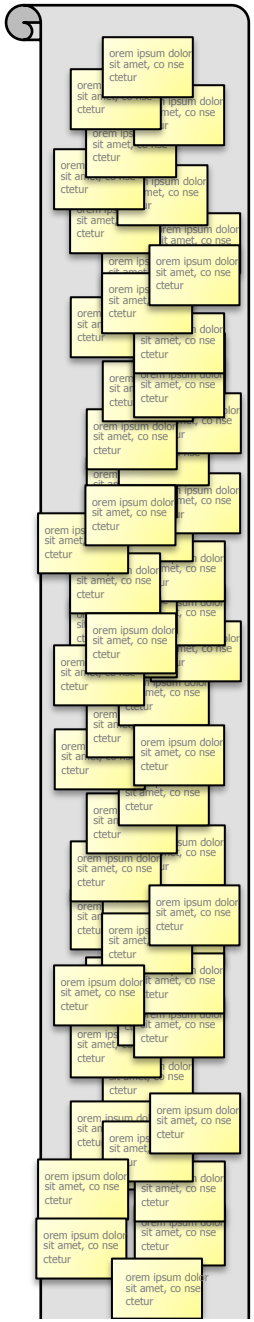


Henrik Kniberg


No Junk
on the Trunk!
Day 1
Day 2
Day 3
Day 4
Day 5
Day 6
Feature
A
Feature
B
Trunk
Always ready for
system test

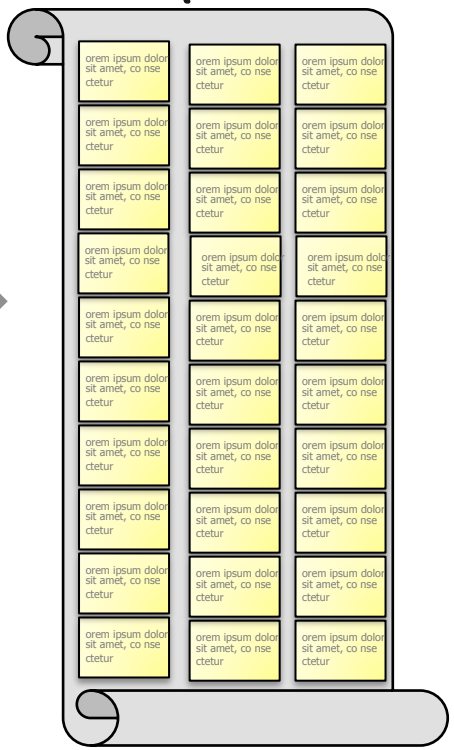

Done!
Done!
Currently Ongoing System Test
System Test
Trunk

Before: 700+ tickets



New ticket

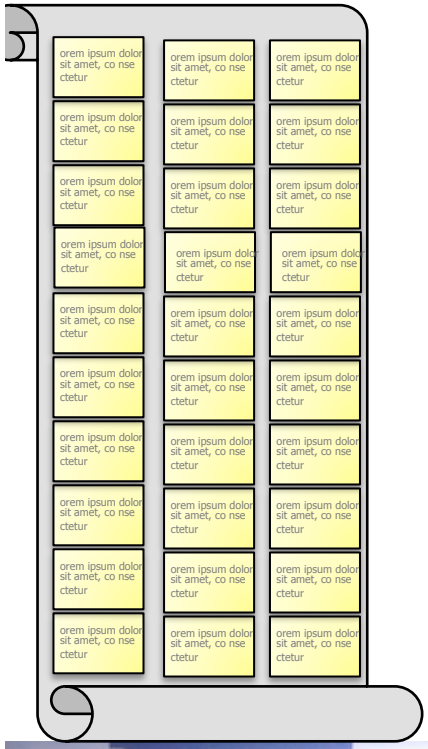
After: Top 30 tickets



Henrik Kniberg

Bug fixing process

Top 30



Bug found!

Blocker?

Yes → Write sticky-note, find developer, fix now!

No

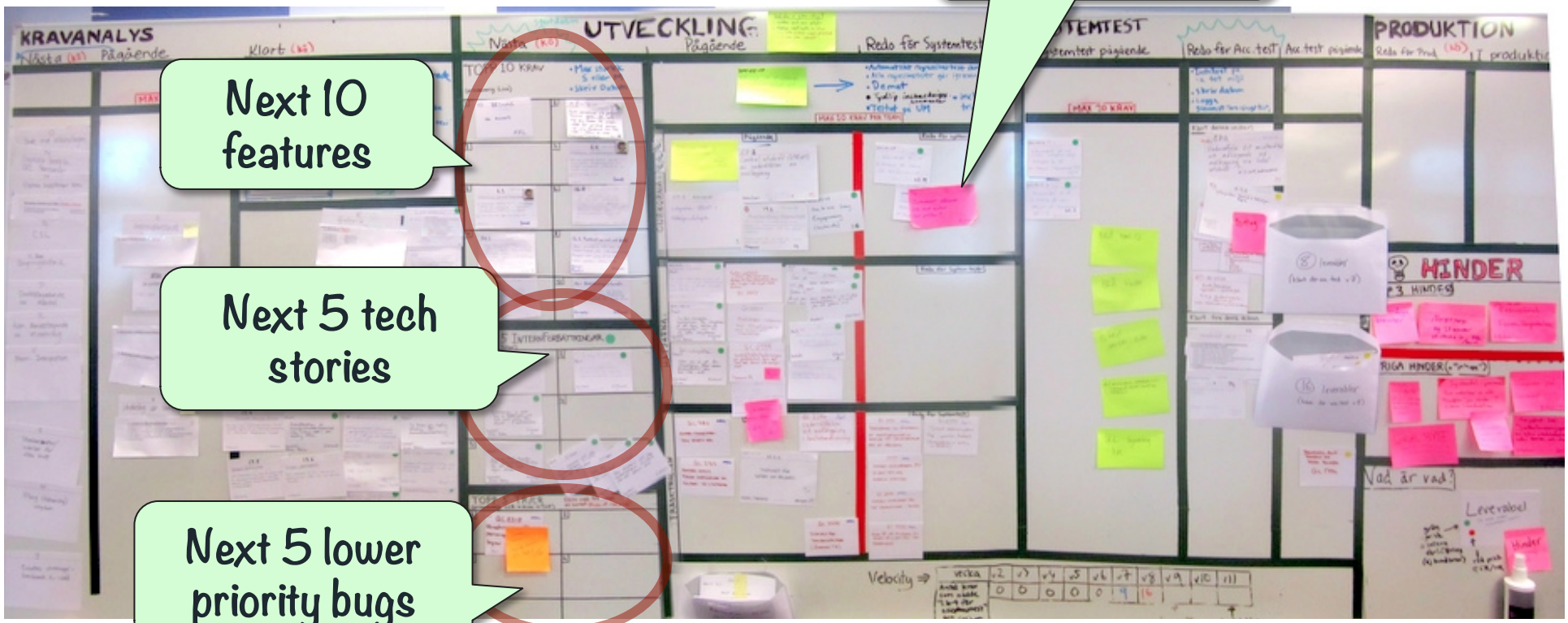
More important than any of the current top 30?

Yes → Replace one of the other top 30 tickets with this one

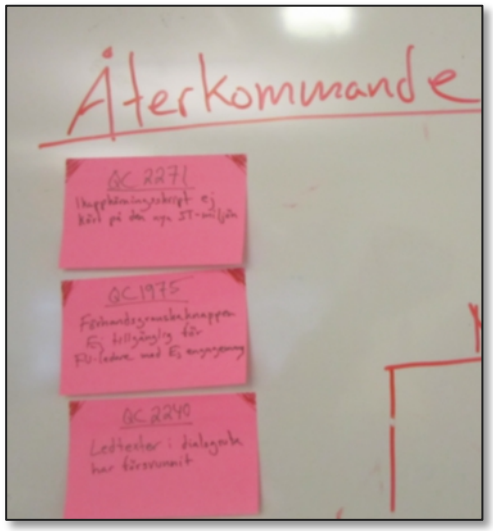
No

Ignore it

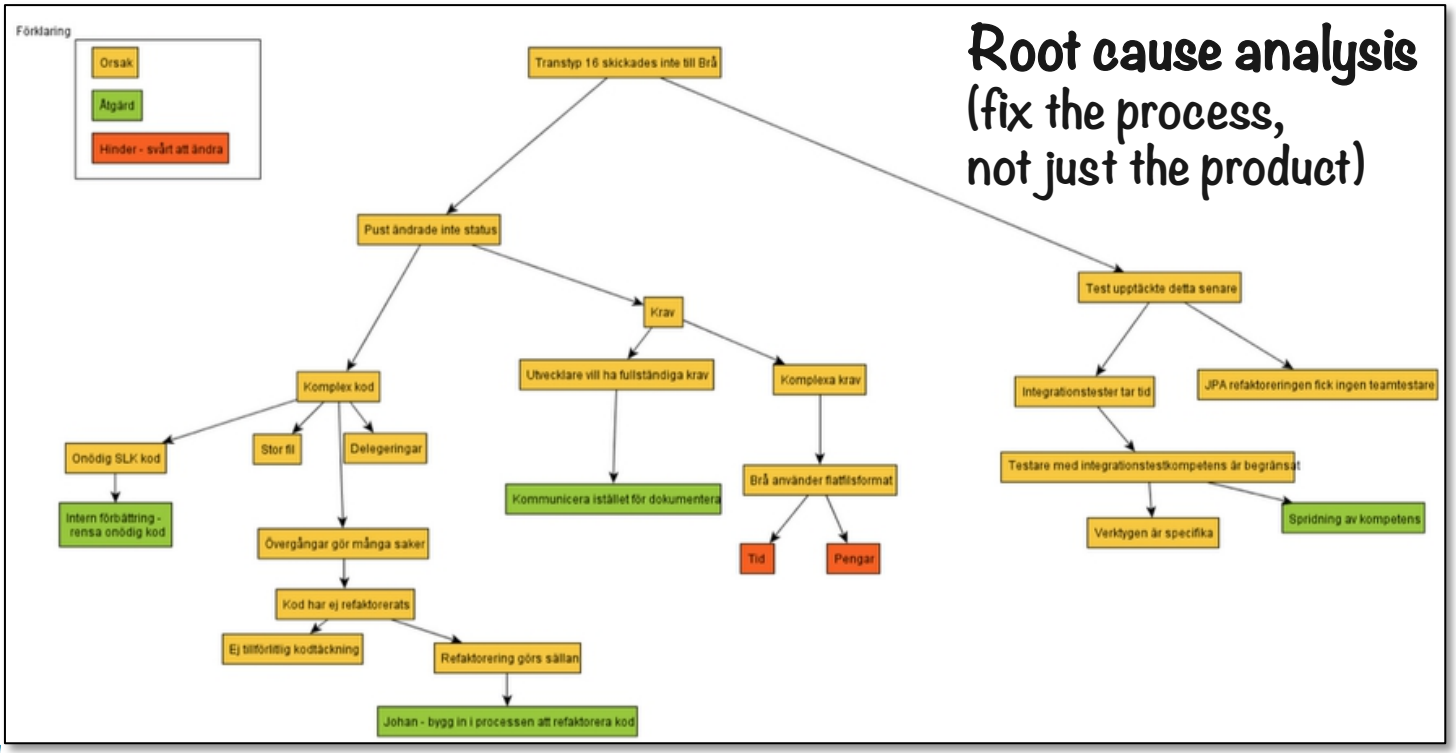
Three input queues



Top 3 recurring bugs



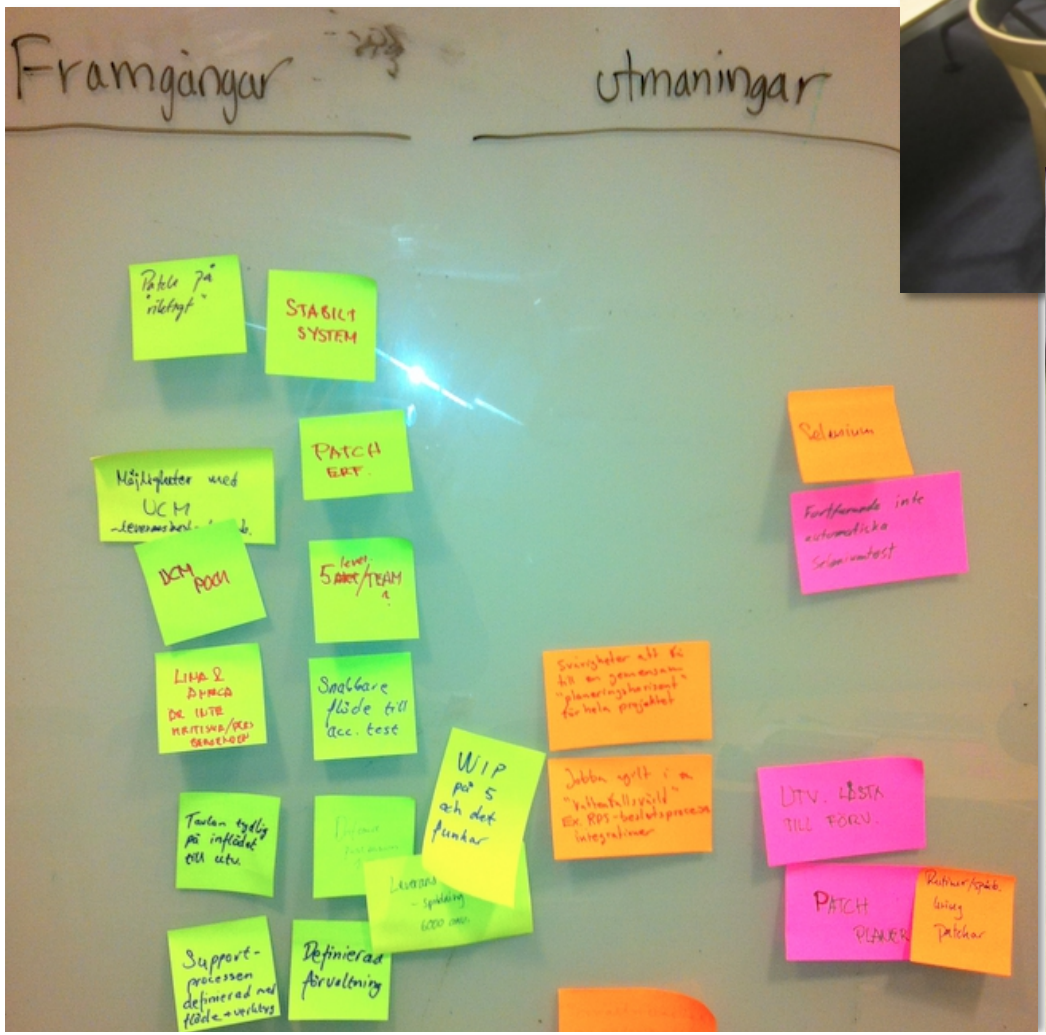
Root cause analysis
(fix the process,
not just the product)

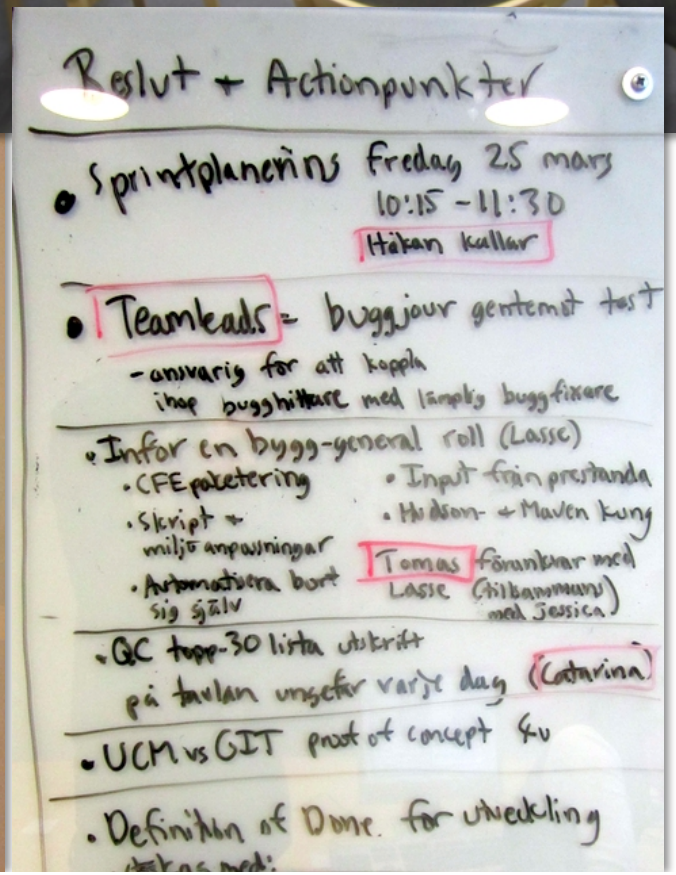


Henrik Kniberg

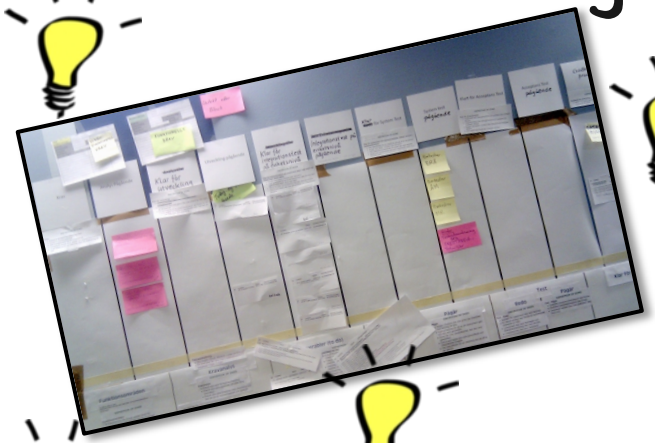
How we continuously improve the process

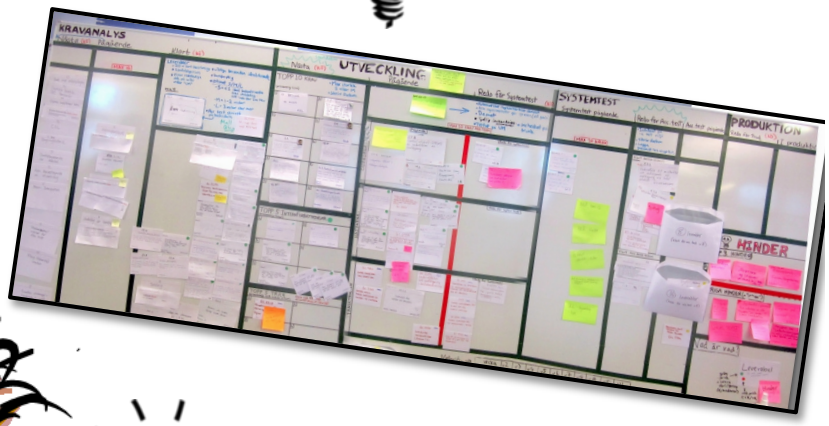
Retrospectives every 1-2 weeks

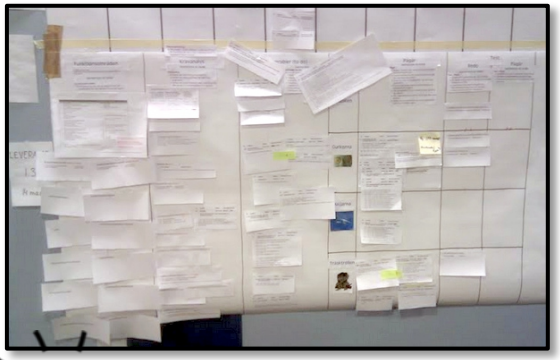




Too much change, too fast!

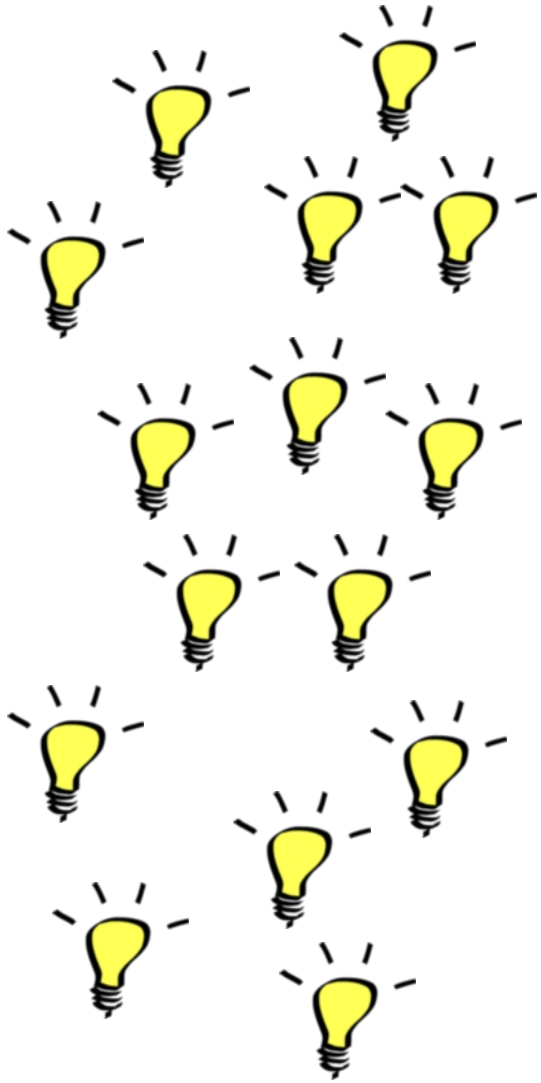


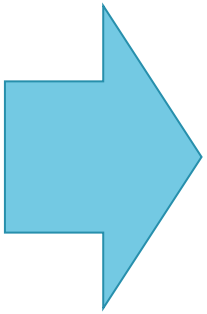




Henrik Kniberg

Make a mini business case for each change





"A4" improvement proposal

"A4" improvement proposal

"A4" improvement proposal

"A4" improvement proposal

Henrik Kniberg

Proposal: More Customer-Valued Stories

Why? What Problem Are We Trying to Solve?

- Hard to get an overview of the project board from customer perspective, many stories are so small that they can't be delivered.

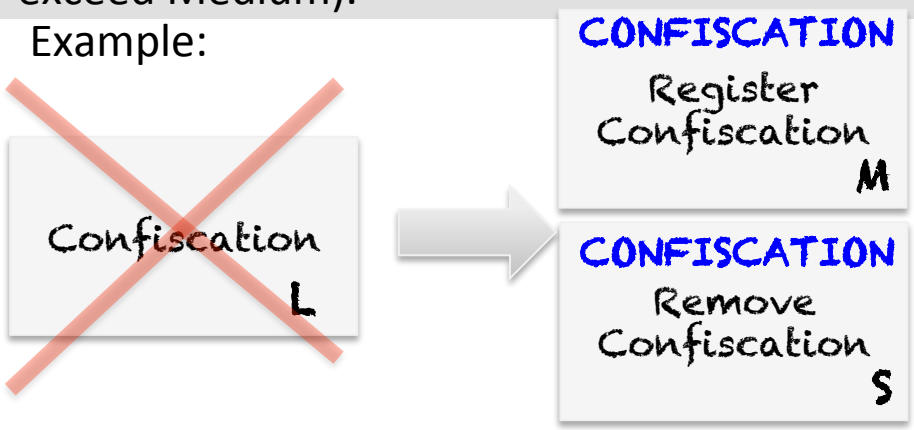
Who Is Affected By The Change?

- Requirements, development, and test teams.

What Are the Change Implementation Steps?

- Update Definition of Done for "Ready for Development", add "the story is valuable to the customer".
- Go through the board & identify stories that are too small to be valuable. Combine these into bigger stories (as long as they don't exceed Medium).

Example:



Description / FAQ

A story that goes into development must:

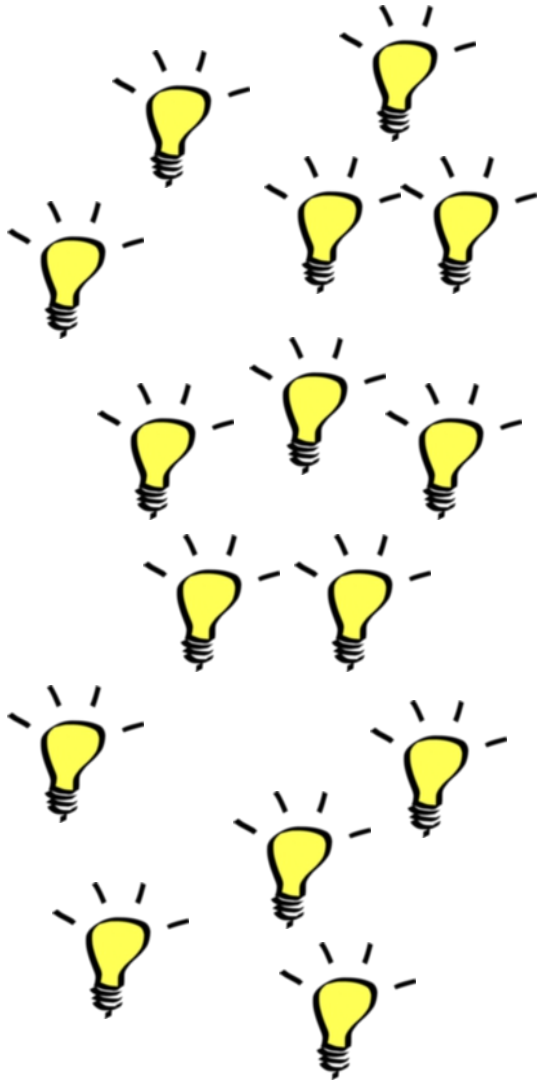
1. Be size S or M
2. Be as customer valuable as possible, as long as we don't break the size rule.

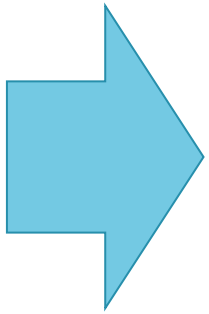
The requirements team ensures that each card under "Ready for Development" is a customer-valued story (regardless of size). However, before it enters development it must be S or M.

Question: What happens if the story is L, and must be delivered as a whole before it is valuable to the customer?

- Break it down to smaller stories (new cards) which are size M, but with highest possible customer value per story.
- Visually group these stories by writing the name of the higher level feature in big blue letters at the top of each card.

Limit the rate of change





"A4" improvement proposal

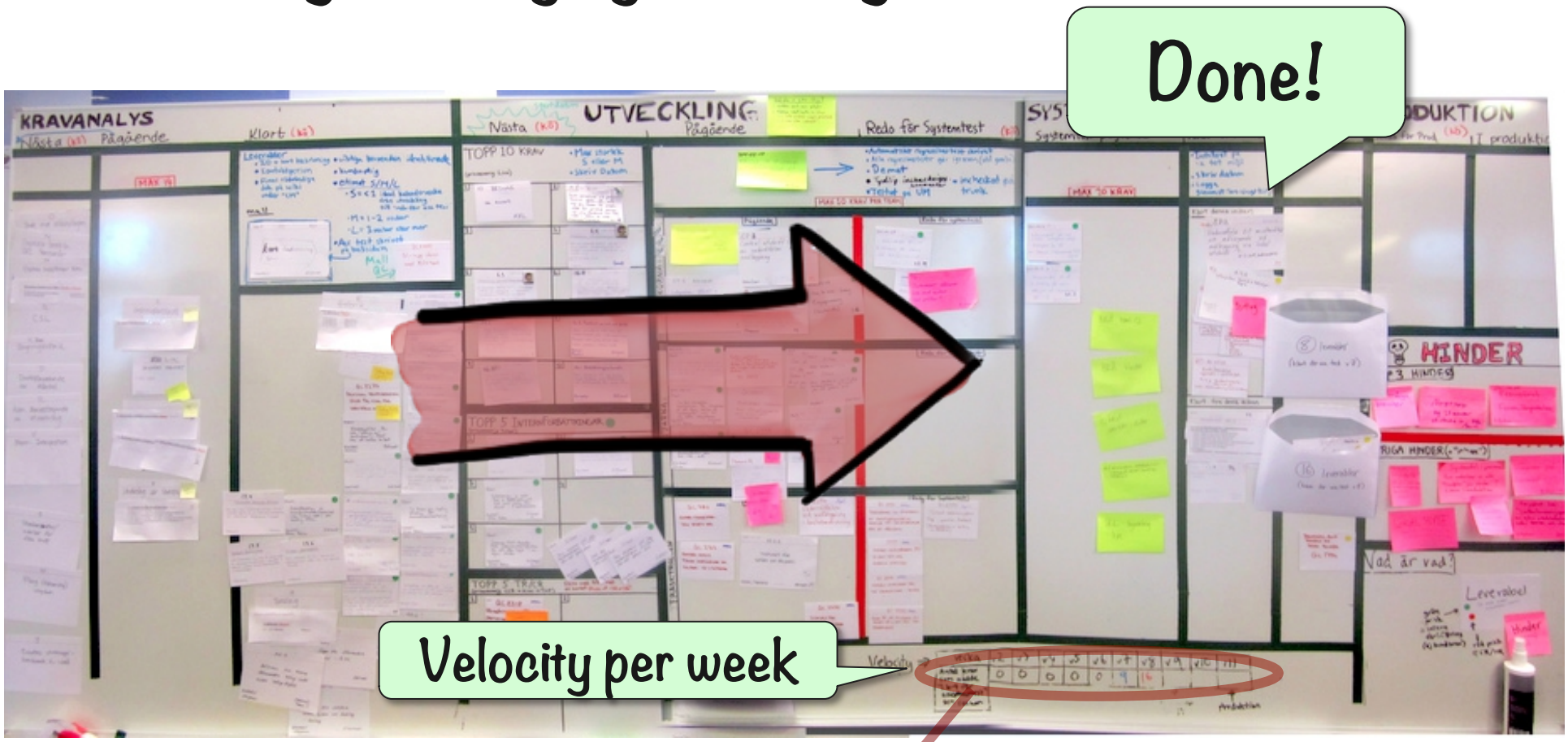
"A4" improvement proposal

"A4" improvement proposal

"A4" improvement proposal

How we capture and use process metrics

Measuring velocity by counting cards



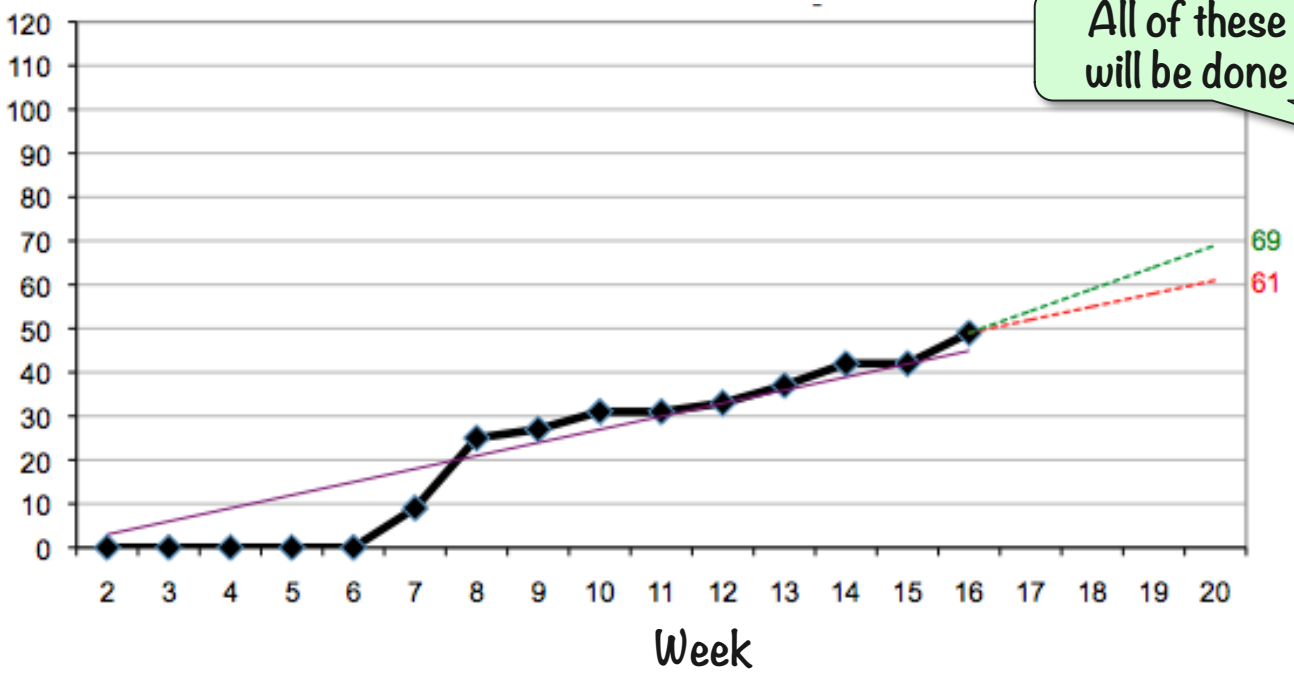
Vecka	v10	v11	v12	v13	v14	v15	v16	v17	v18
Antal nya funktioner som nått till 'Redo för AccTest'	4	0	2	4	5	0			

↑ Prodsättn.

VEL

Henrik Kniberg

Example: Release planning using a burnup chart

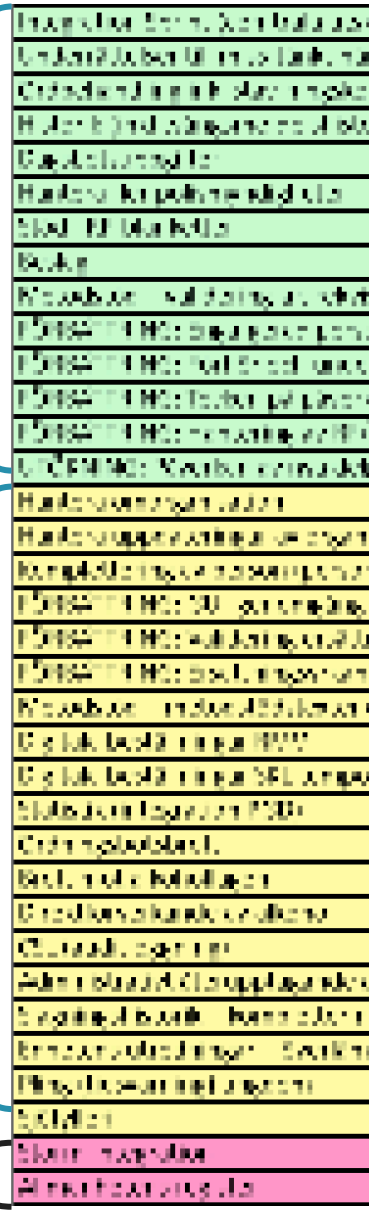


Total # of delivered features

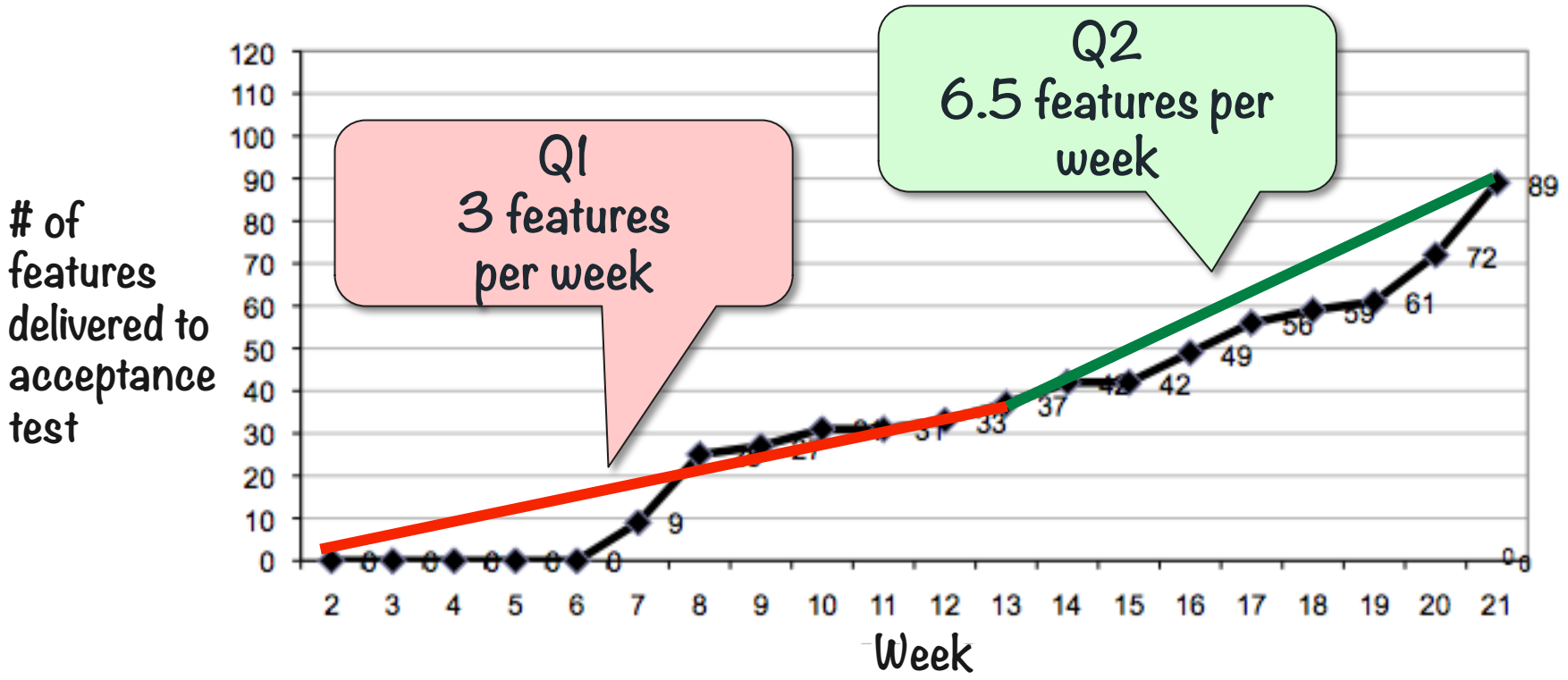
All of these will be done

Some of these will be done, but not all

None of these will be done

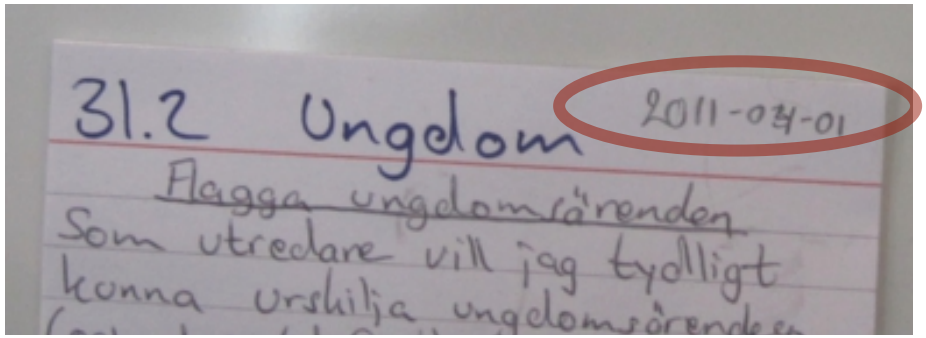


Velocity improvement



Cycle time

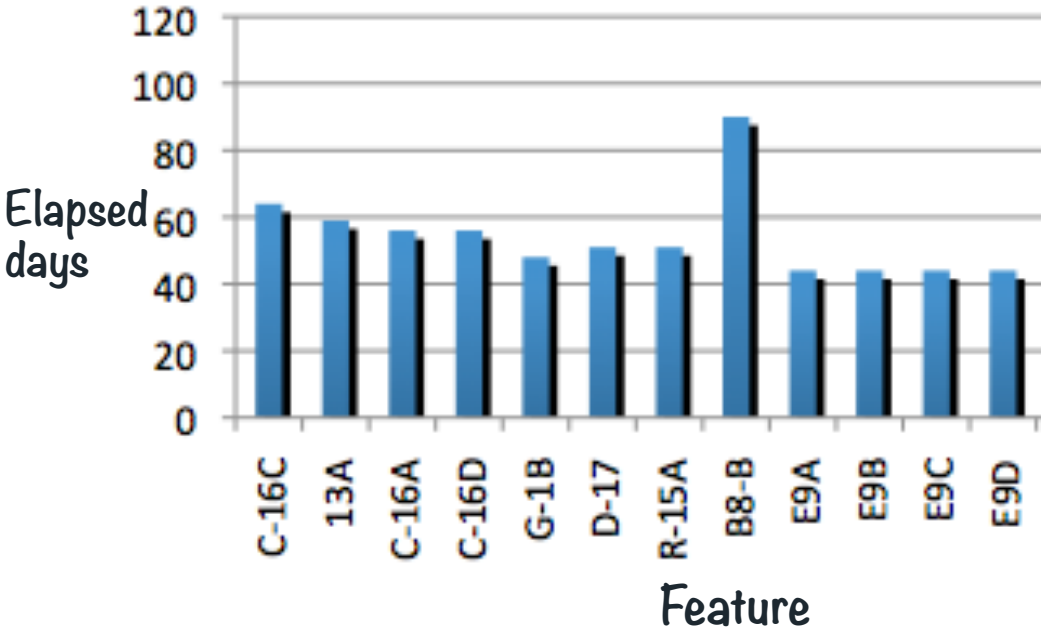
Cycle time (elapsed days)



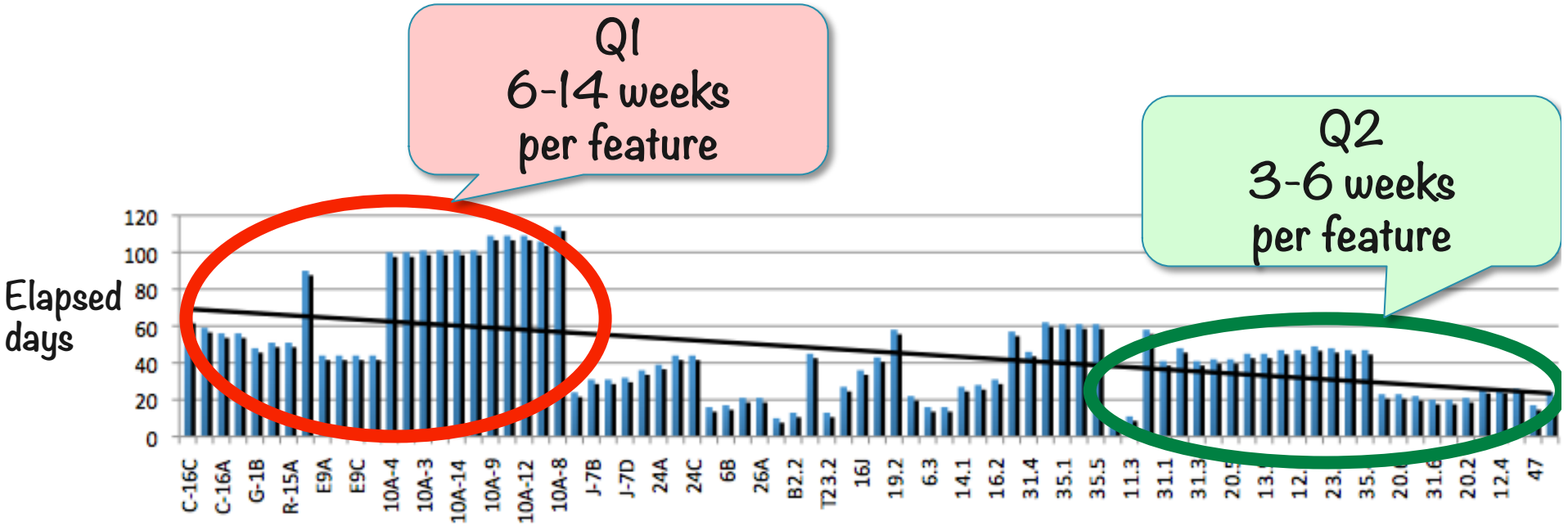
Henrik Kniberg

Visualizing cycle time

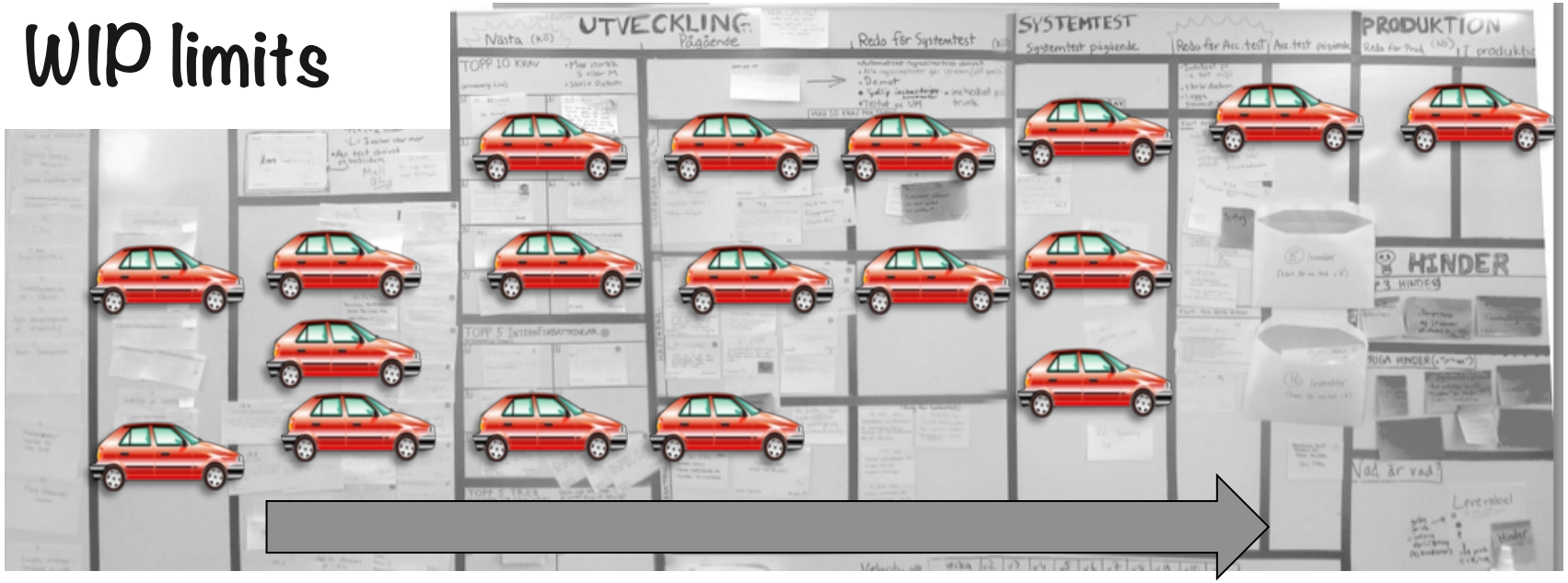
Leverabel	start	slut	Genomströmningstid (dagar)
6A	2011-02-01	2011-02-17	16
6A	2011-02-01	2011-02-17	16
26B	2011-02-03	2011-02-24	21
26A	2011-02-03	2011-02-24	21
B2.2	2011-02-08	2011-02-21	13
25.2.1	2011-02-08	2011-02-18	10
25.2.2	2011-02-08	2011-03-25	45
B8-A	2011-02-10	2011-03-09	27
T23.2	2011-02-10	2011-02-23	13
16J	2011-02-20	2011-03-28	36
A-4A	2011-03-08	2011-03-30	22



Cycle time improvement



WIP limits


UTVECKLING
Nästa
Pågående
Redo för Systemtest
SYSTEMTEST
Systemtest pågående
Redo för Acc. test
Acc test pågående
PRODUKTION
HINDER

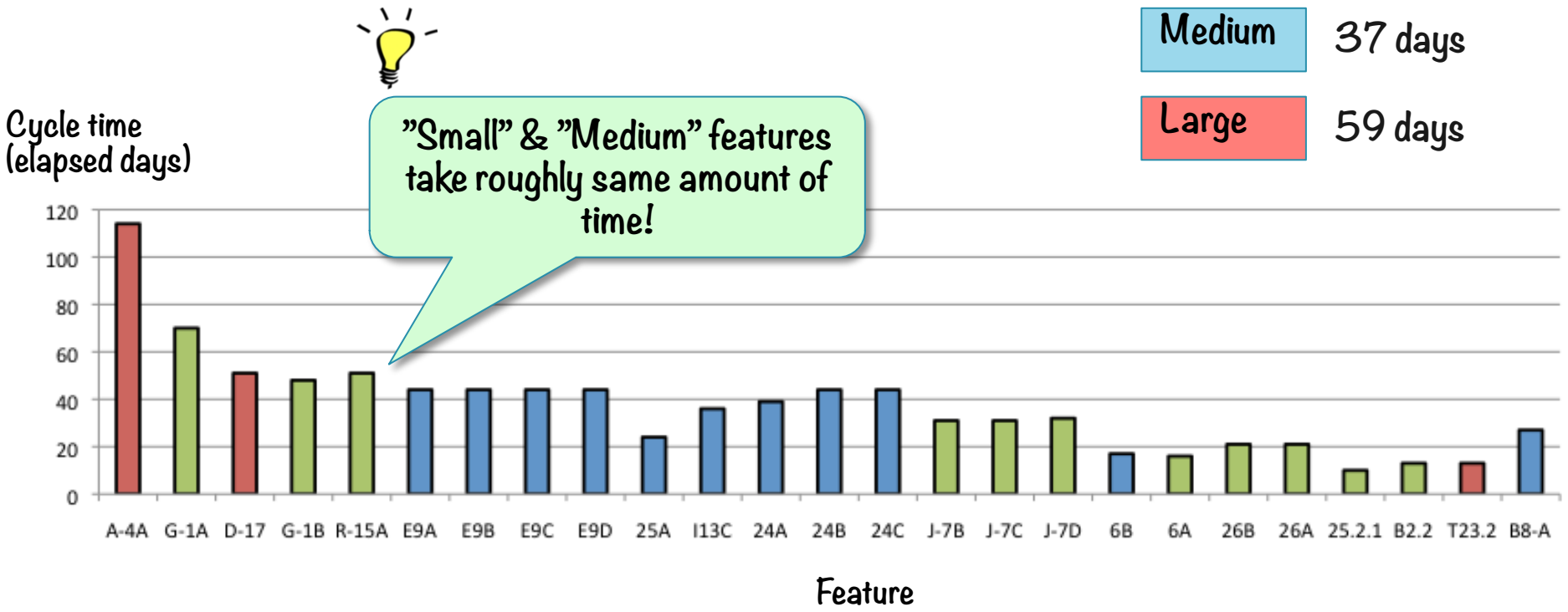

MAX 5 KRAV PER TEAM


KRAVANALYS
Nästa
Pågående
Klart
UTVECKLING
Nästa
Pågående
Redo för Systemtest
SYSTEMTEST
Systemtest pågående
Redo för Acc. test
Acc test pågående
PRODUKTION
HINDER

Surprising insight

Average cycle time

Small	31 days
Medium	37 days
Large	59 days

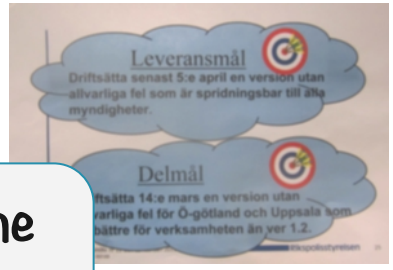


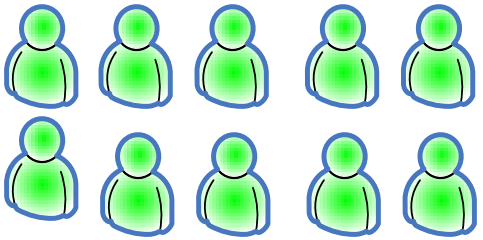
How we track the high level goal

High level goal

Milestone

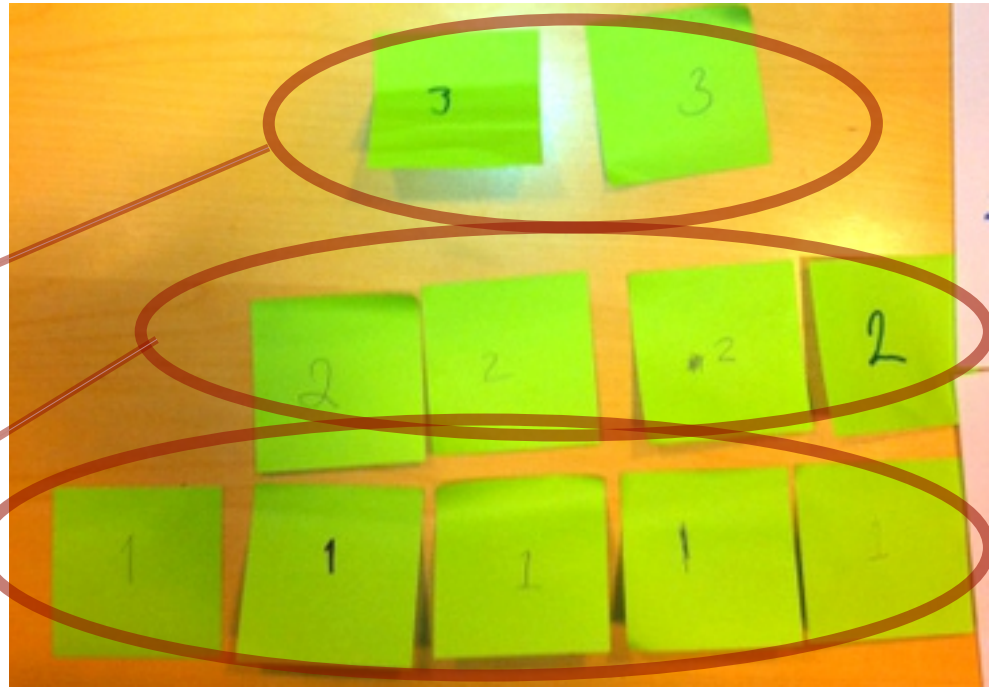
Death March Detection using gut feel



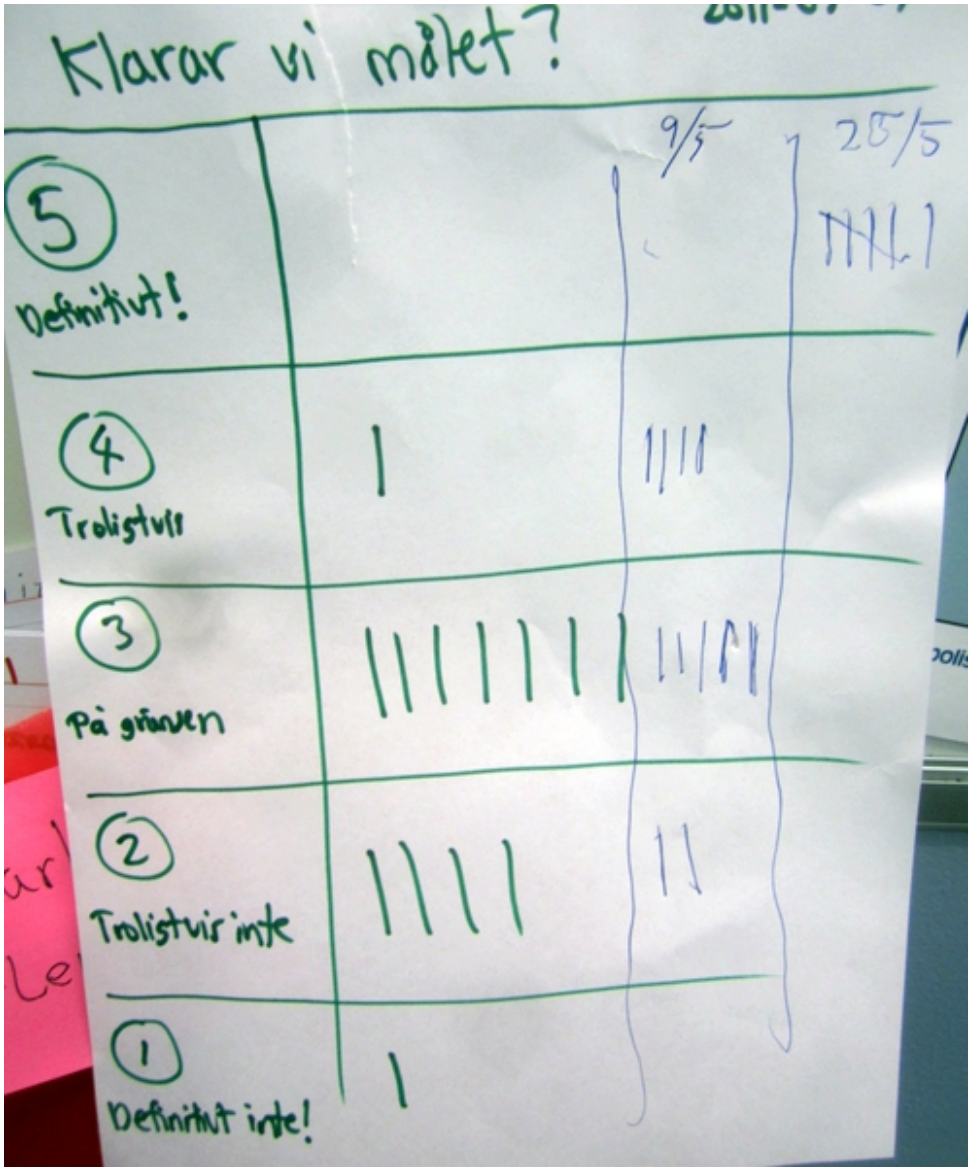


Do you believe the current goal is achievable?

5 = certainly
4 = probably
3 = barely
2 = probably not
1 = forget it



Henrik Kniberg

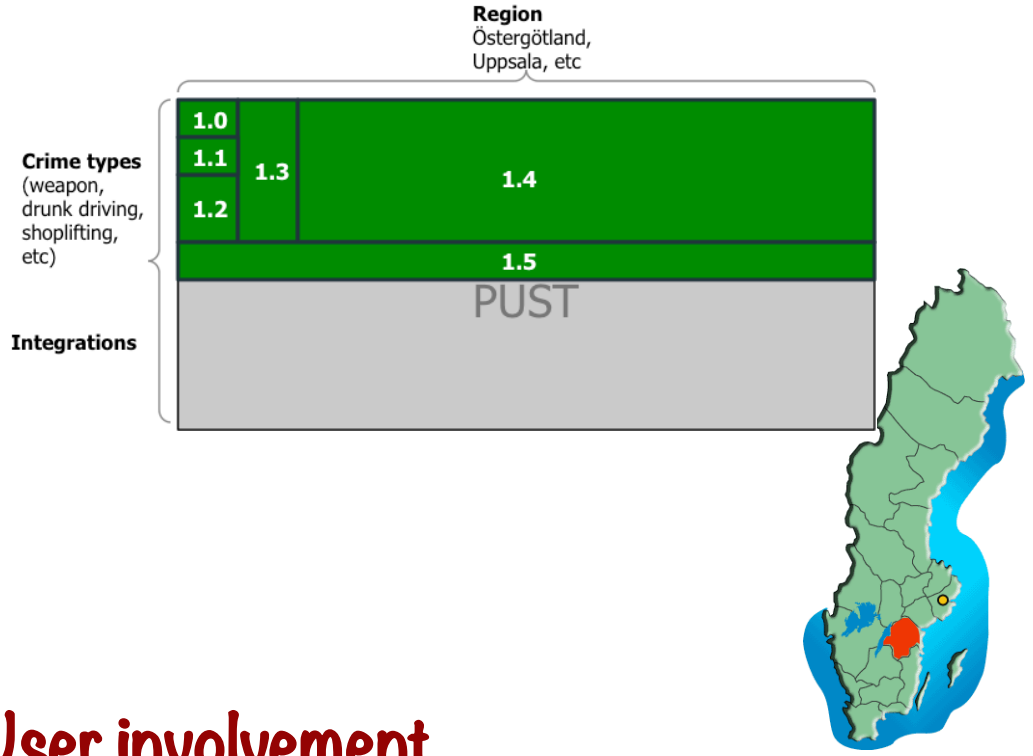

Klarar vi målet?
9/5
25/5
5
Definitivt!
4
Troligtvis
3
På gränsen
2
Troligtvis inte
1
Definitivt inte!

Wrapup

Setting the project up for success

Co-location

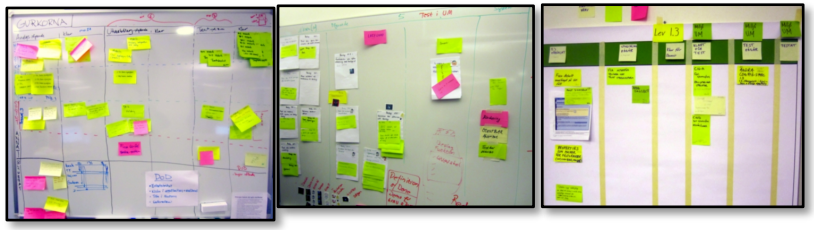
Incremental delivery



User involvement

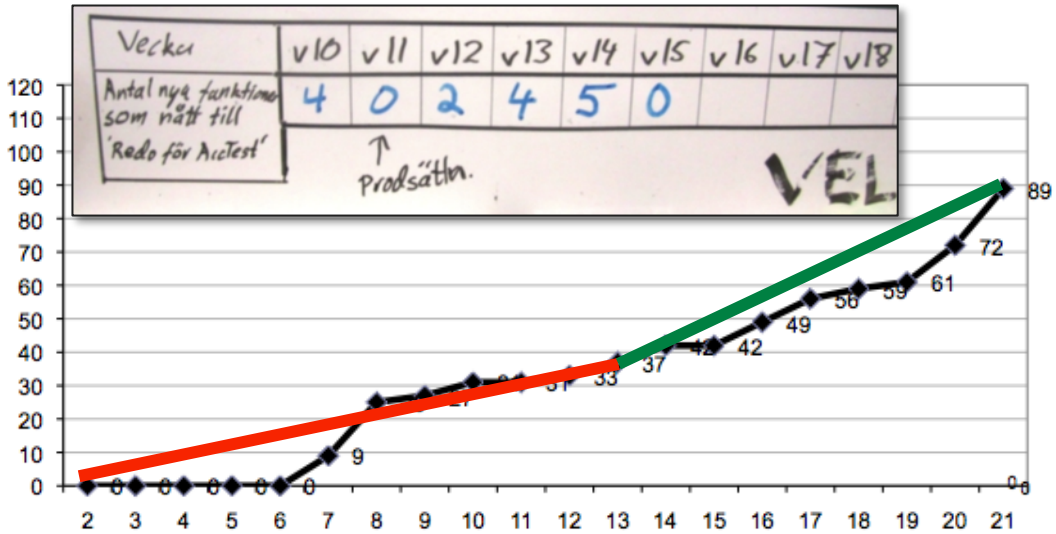
Creating a culture of continuous improvement

Clarity



Communication

Data



Henrik Kniberg

Perfection is a direction, not a place

Henrik Kniberg

Hva kan din organisasjon lære av PUST-prosjektet?

- Diskusjon i små grupper på to til tre
- Kommentarer og spørsmål

Seminar på smidig ledelse (26 nov)

- Fra smidig virksomhetsstyring, portefølje og programstyring til ledelse av team med høy ytelse.

Beyond Budgeting - smidig virksomhetsstyring	**Bjarte Bogsnes** (Statoil)
Smidig program- og porteføljestyring	**Kjetil Strand** (Promis)
Produkteierrollen i store smidige distribuerte prosjekter	**Tom-Tom Erik Isaksen** (Telenor)
Smidig linjeledelse i storskala prosjekter og program	**Lars-Ola Damm** (Ericsson)
Det ambidekstrale prosjekt – hvordan kombinere fleksibilitet, styring og kontroll	**Tore Dybå** (Sintef)

9:30-16

Programkomite: Torgeir Dingsøyr og Nils Brede Moe (SINTEF), Per Kristian Helland (Storebrand)

XP 2015
HELSINKI

XP2015: Call for Contributions

Theme: Delivering Value - Moving from Cyclic to Continous Value Delivery