

Agile Everywhere

Lean Forum keynote
Gothenburg, Oct 2018

Consultant


www.crisp.se

Henrik Kniberg

henrik.kniberg@crisp.se
@HenrikKniberg

Climate guy



Dad



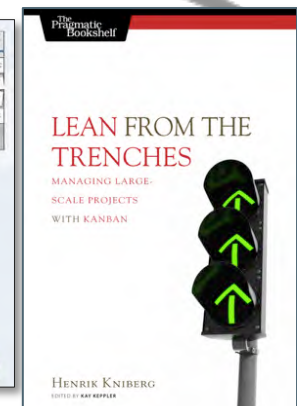
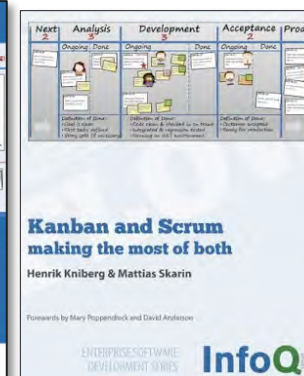
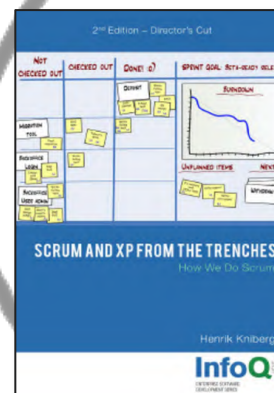
Organizational coach
& Change Instigator



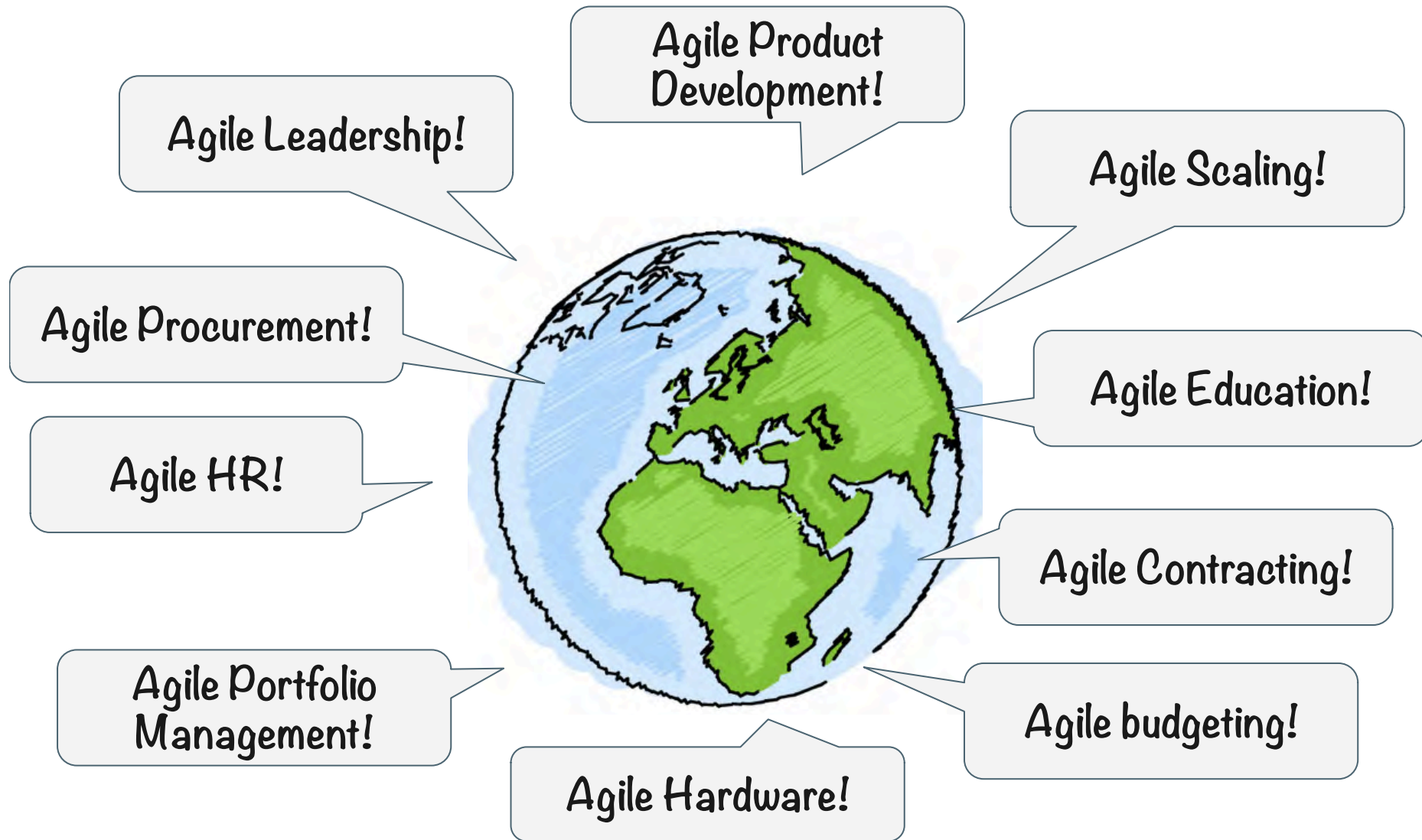
 MOJANG



Author



What's going on?

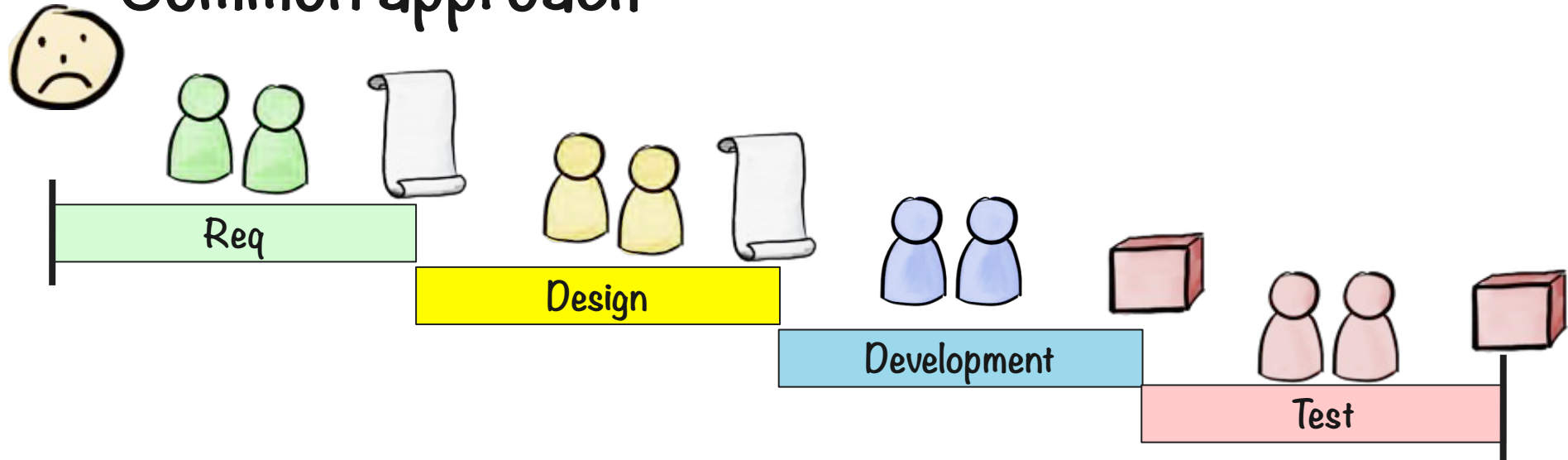




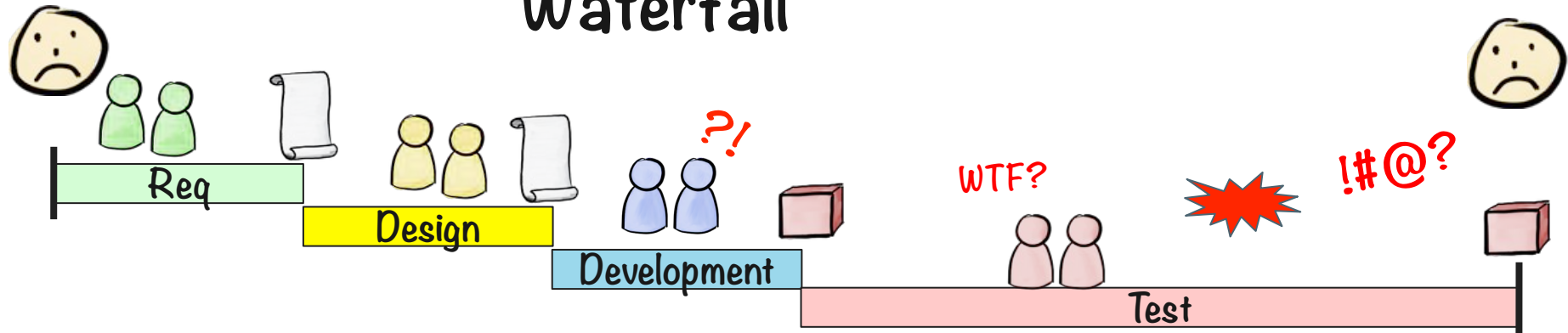
How I stumbled
into this



Common approach



Waterfall



How the customer explained it



How the Project Leader understood it



How the analyst designed it

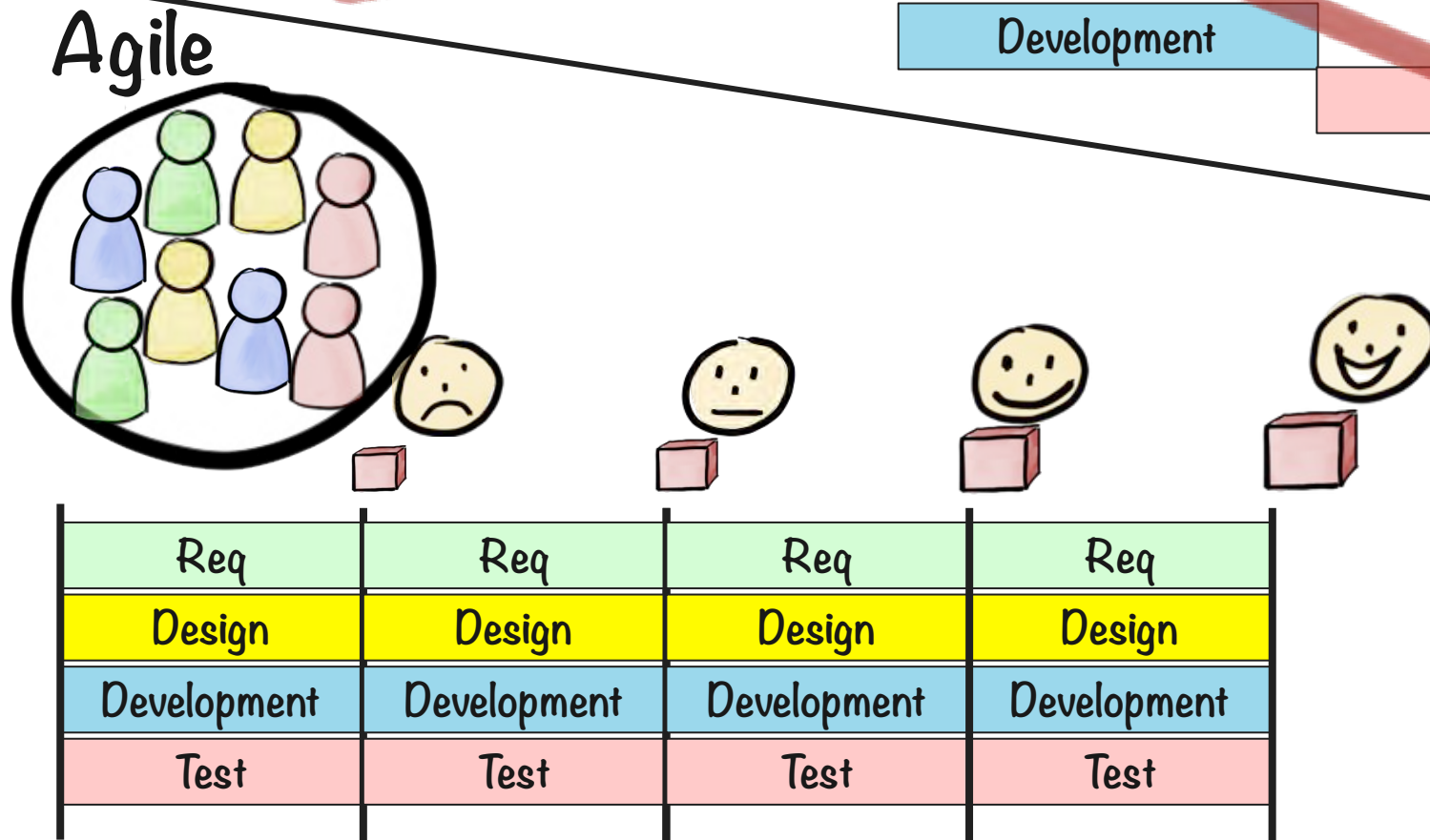
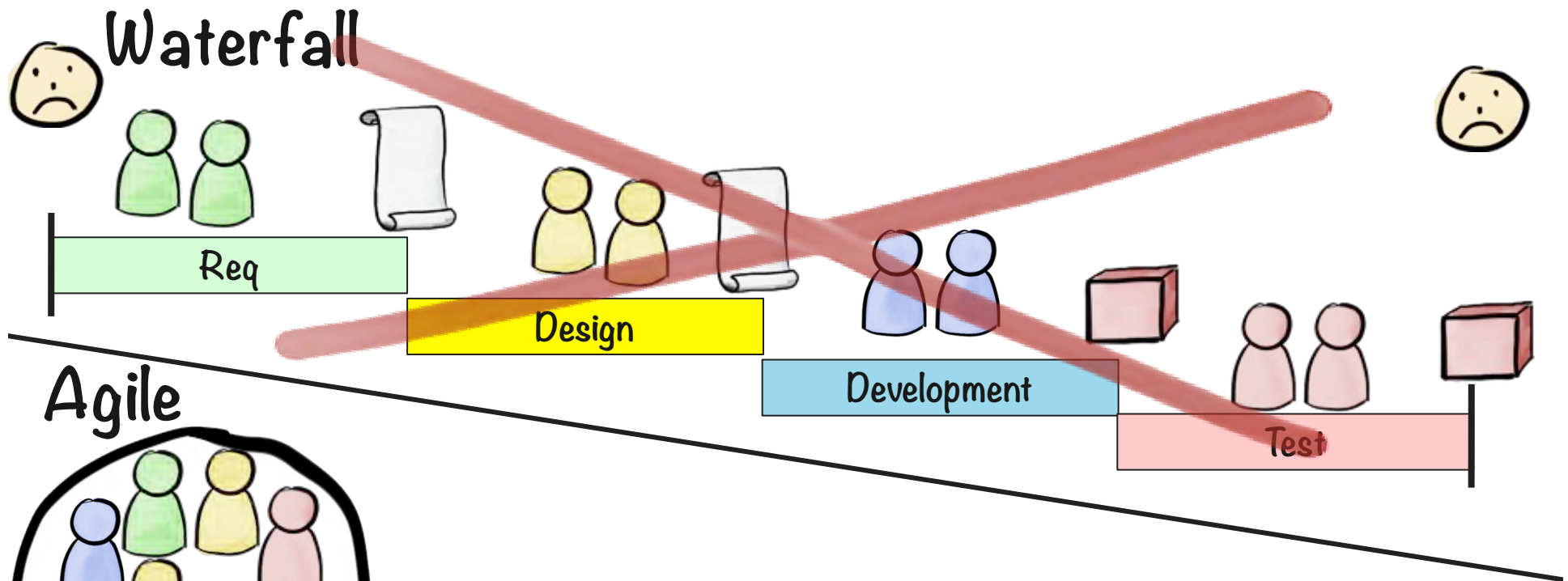


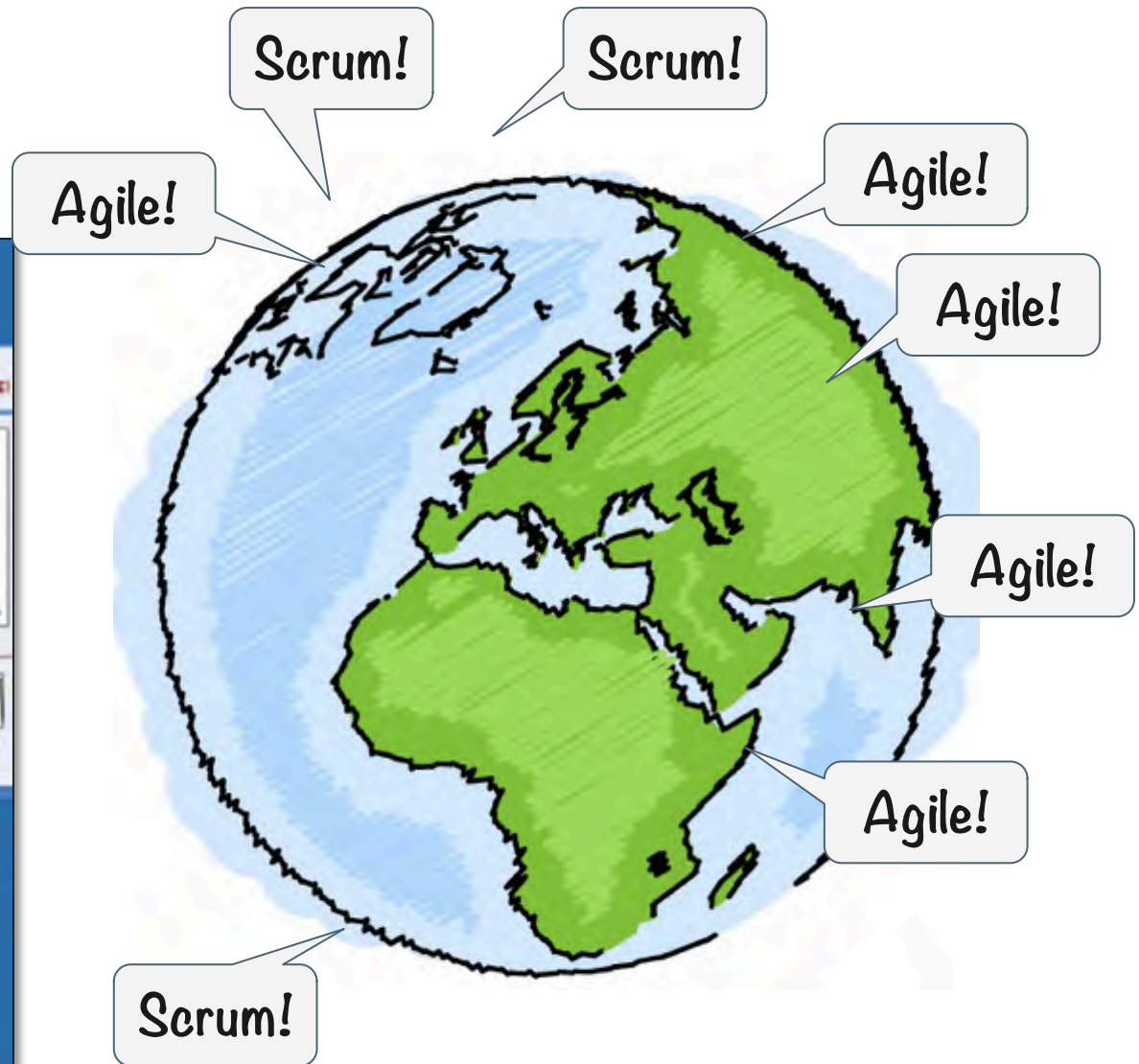
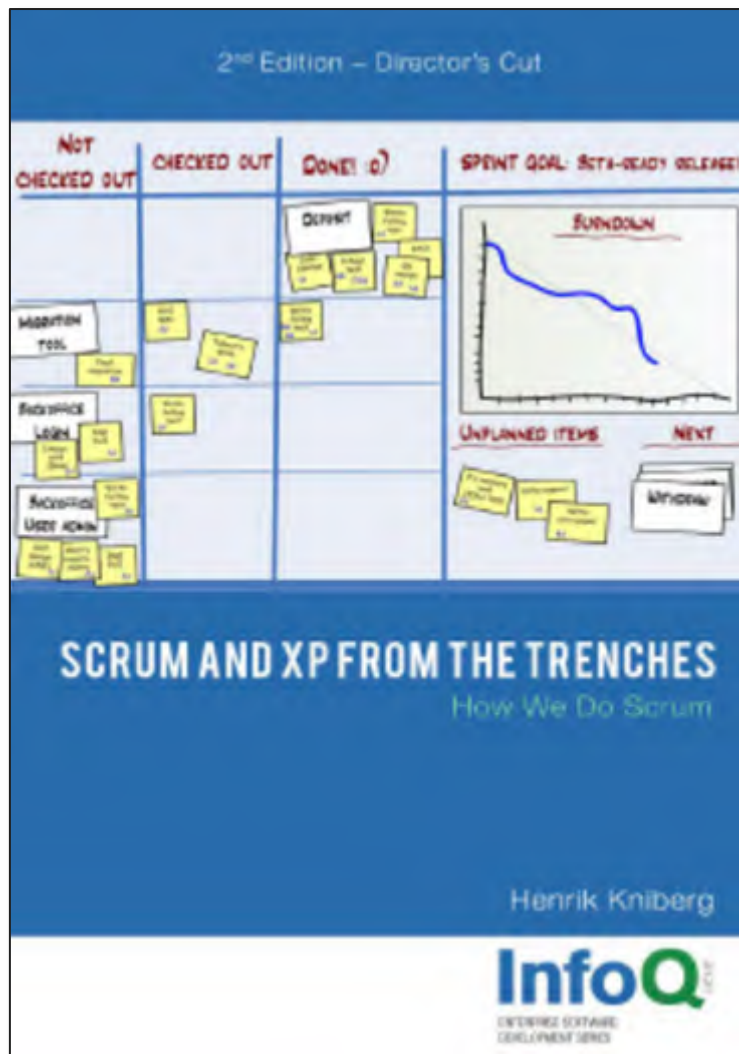
How the programmer wrote it



What the customer really needed







Henrik Kniberg

Image credit:
freevectors.com



OK.

Agile seems to work.
But why?

Predictive process = cannon ball

Assumptions:

- The customers knows what they need
- The teams know how to deliver it
- Few things change along the way



Adaptive process = homing missile

Assumptions:

- The customer discovers what they need
- The teams discover how to deliver it
- Many things change along the way



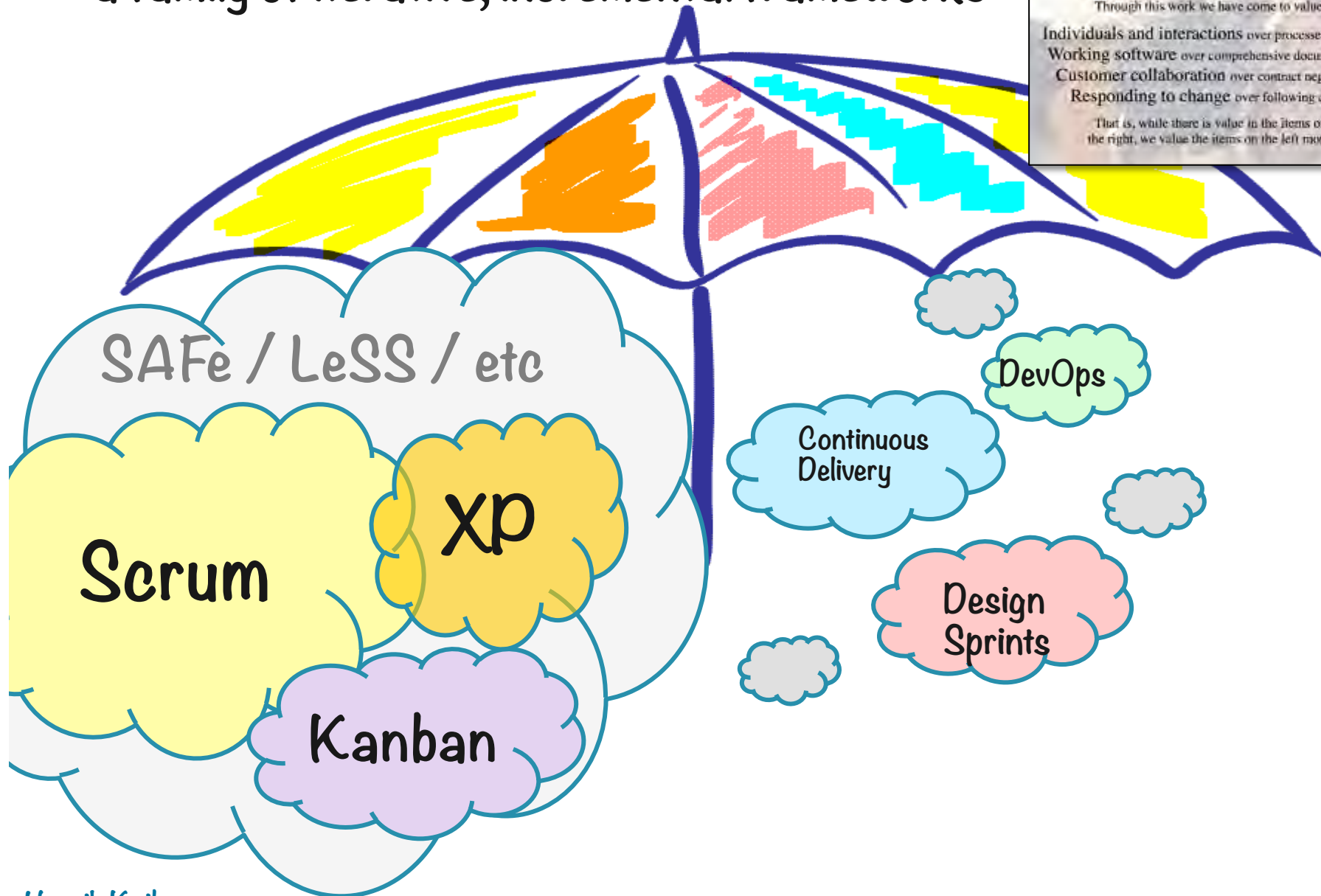
Agile "umbrella" – a family of iterative, incremental frameworks

Manifesto for Agile Software Development

We are uncovering better ways of developing software by doing it and helping others do it.
Through this work we have come to value:

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

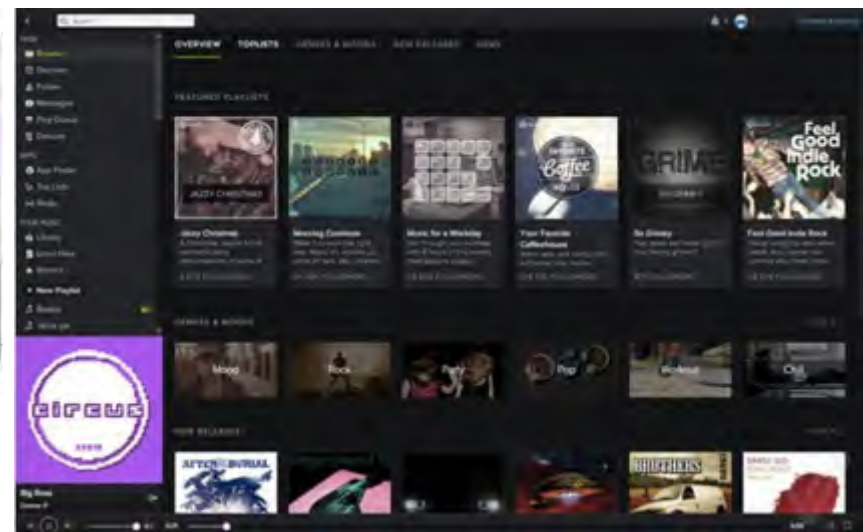
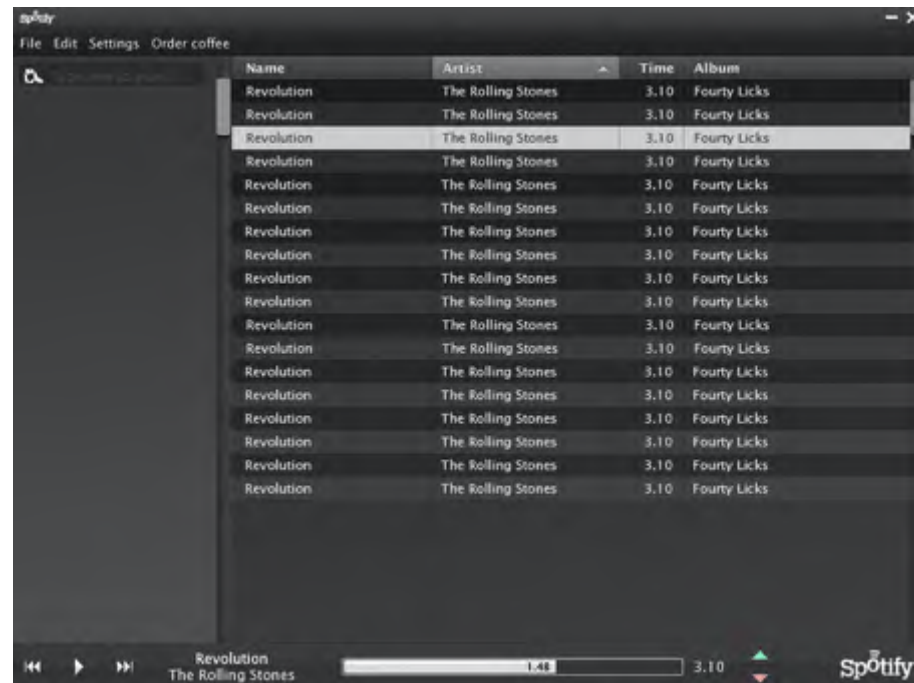
That is, while there is value in the items on the right, we value the items on the left more.



Agile team =
stable, small, cross-functional, self-organizing, preferably co-located



Henrik Kniberg



Henrik Kniberg

What about Lean?

Manifesto for Agile Software Development

We are uncovering better ways of developing software by doing it and helping others do it.
Through this work we have come to value:

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

Kent Beck	James Grenney
Mike Beedle	Jim Highsmith
Arie van Bennekum	Andrew M. Mason
Alistair Cockburn	Ron Jeffries
Ward Cunningham	Jon Kohn
Martin Fowler	Brian Marick

Principles behind the Agile Manifesto

We follow these principles:

Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.

Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

Business people and developers must work together daily throughout the project.

Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

Working software is the primary measure of progress.

Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

Continuous attention to technical excellence and good design enhances agility.

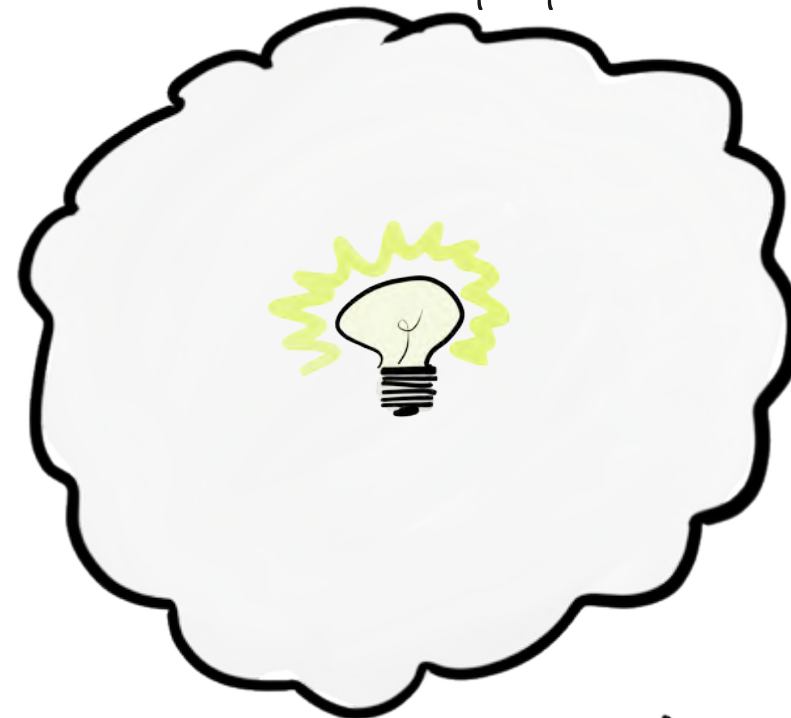
Simplicity—the art of maximizing the amount of work not done—is essential.

The best architectures, requirements, and designs emerge from self-organizing teams.

At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

Agile

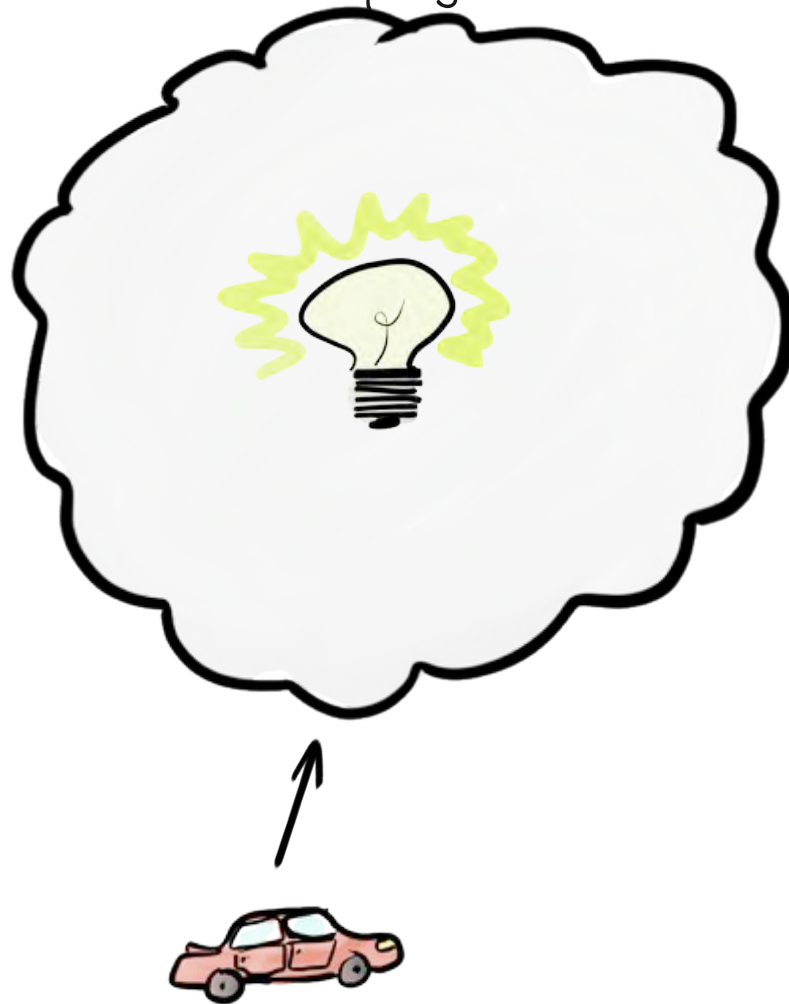
A bunch of great ideas from software people



Henrik Kniberg

Lean

A bunch of great insights
from a car company

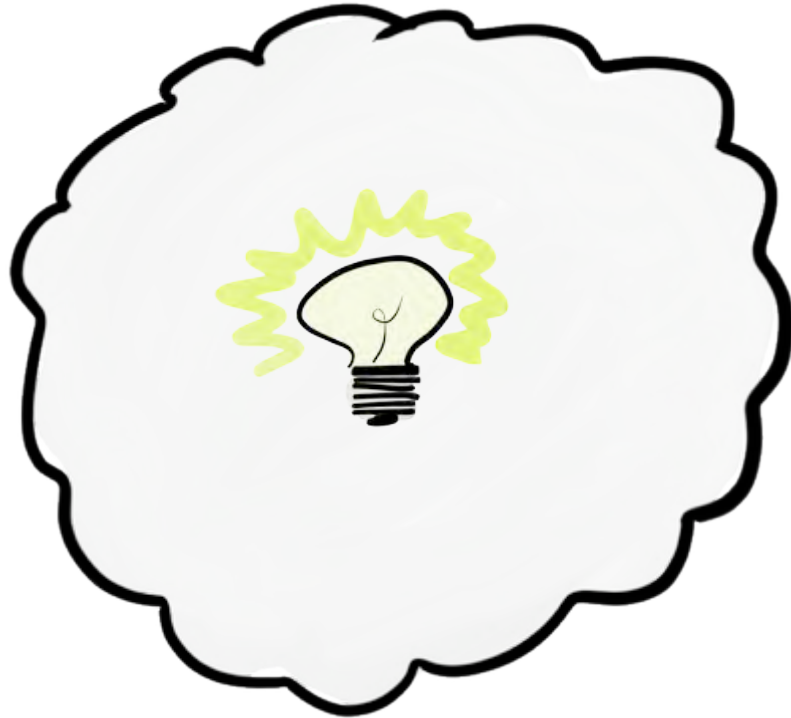


Toyota Production System

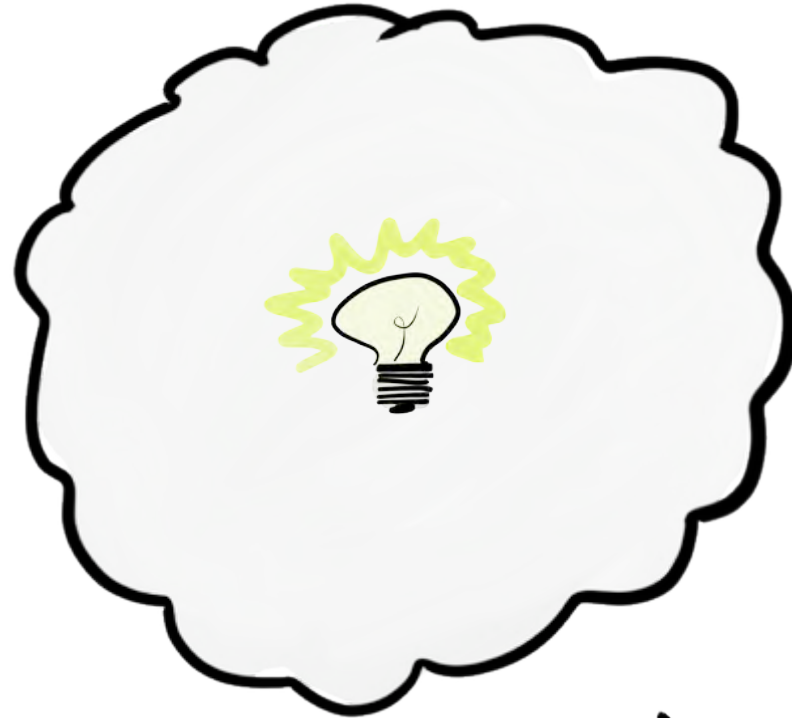


Source: J. Liker (2004). *The Toyota Way*. McGraw-Hill. pg. 33.

Lean



Agile

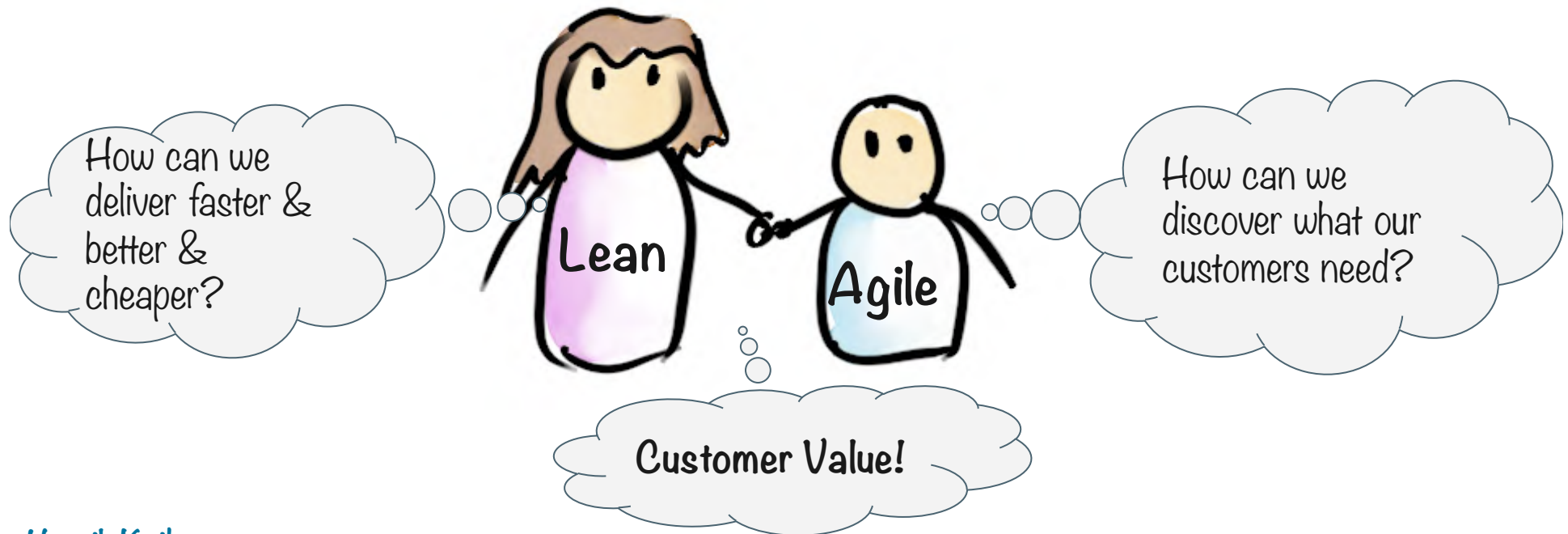
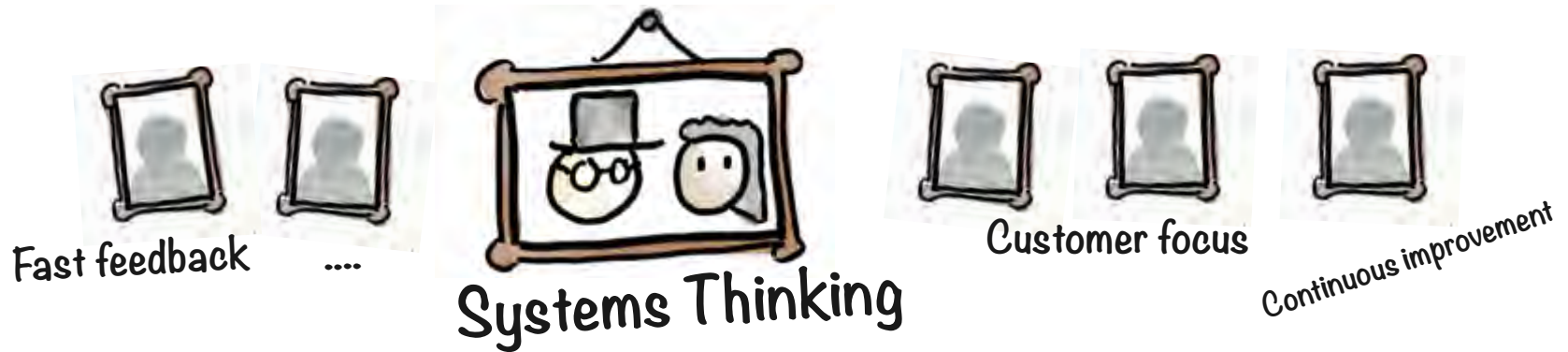


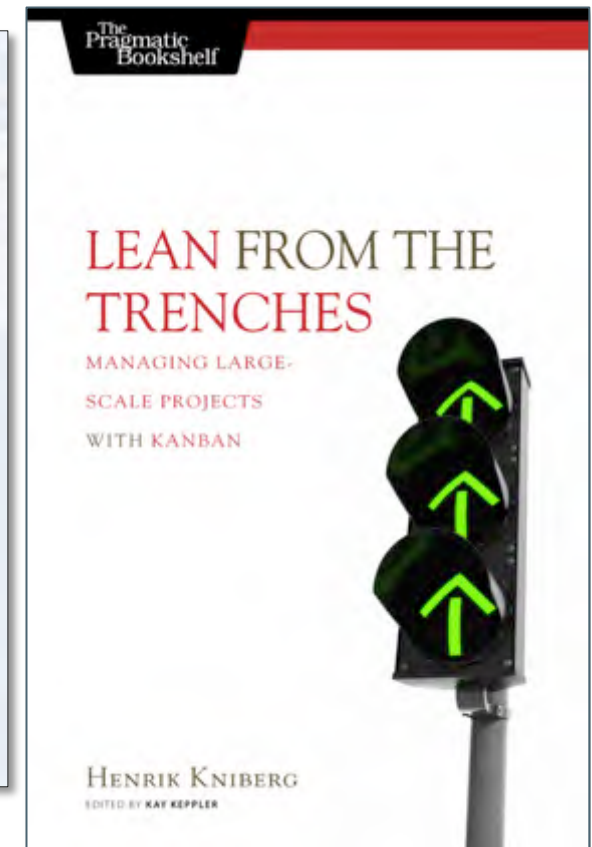
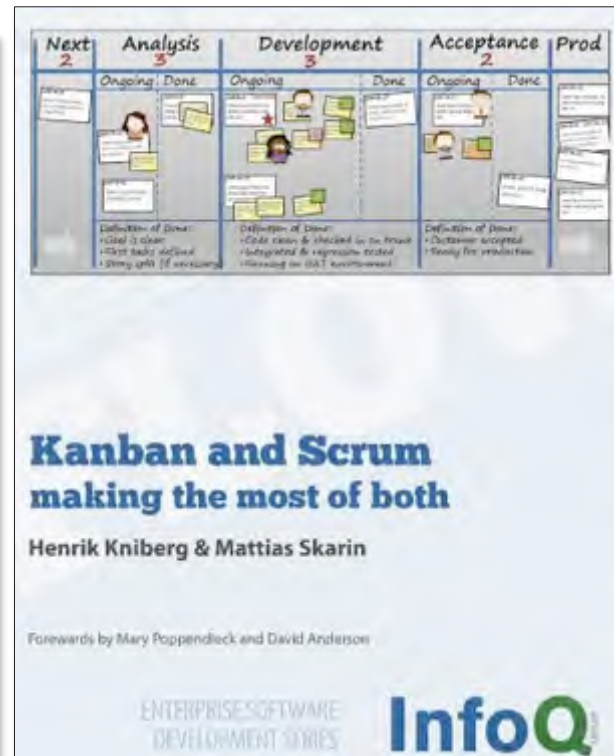
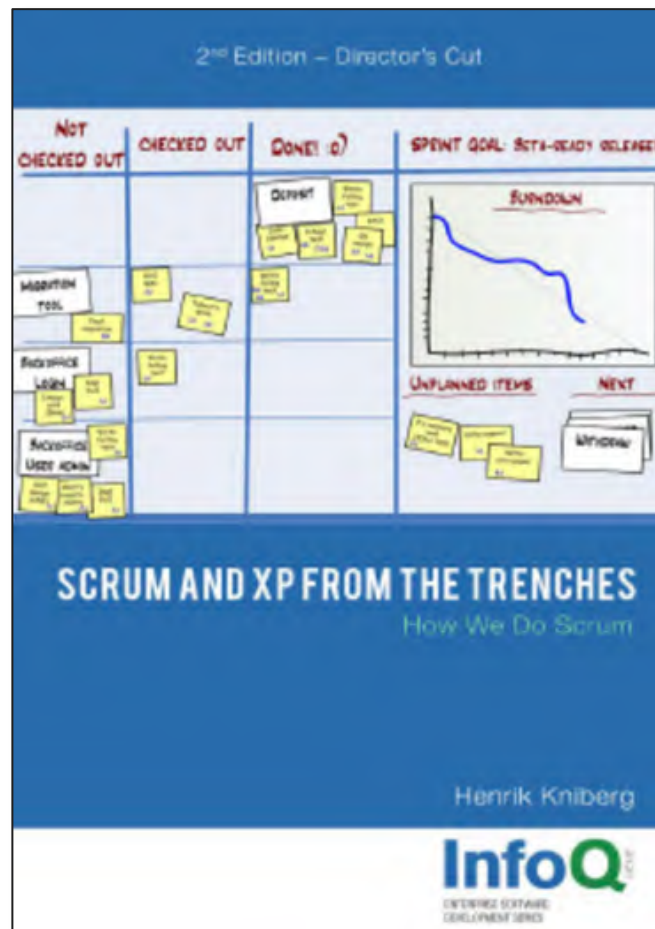
Lean

Agile



Lean & Agile are siblings





Pitfalls

Beware of Tool Misuse

If all you have is a hammer,
everything looks like a nail



Abraham Maslow

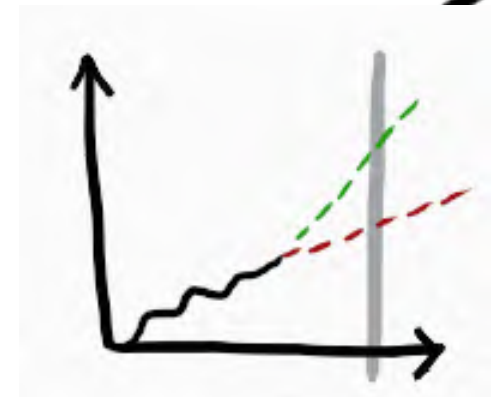


Variability isn't always a bad thing

100% predictability = 0% innovation

Focus on
Innovation

Focus on
Predictability

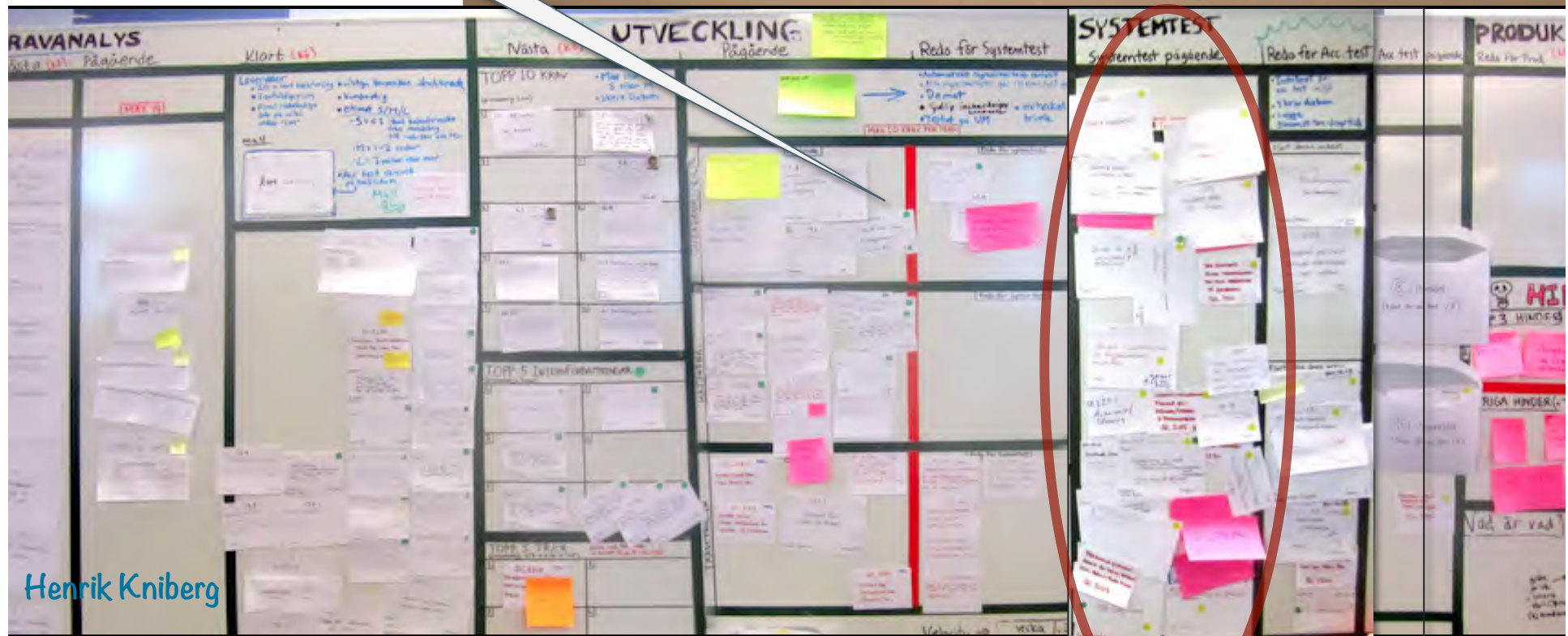


Misguided Lean

Solving the
wrong problem

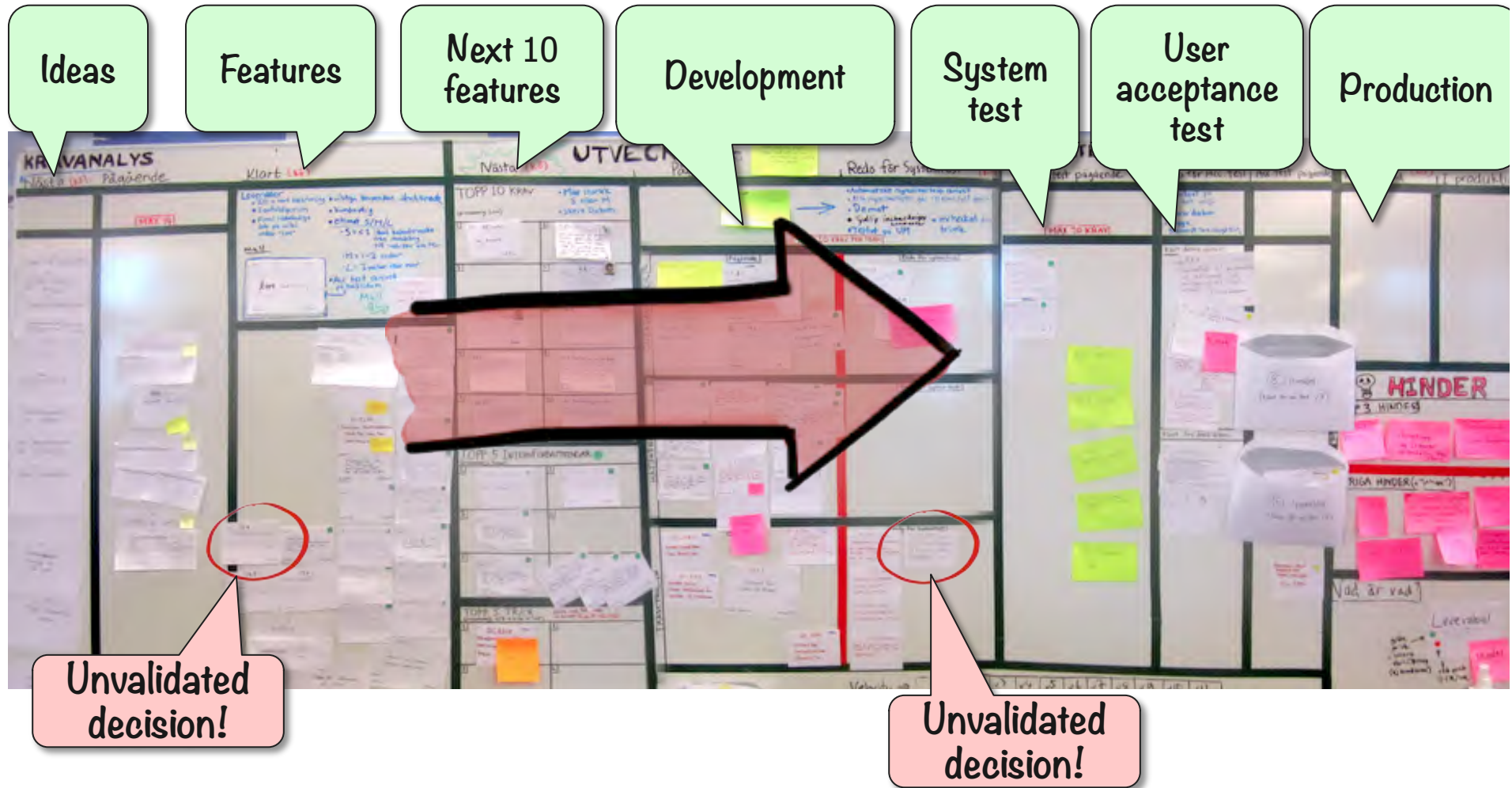
Revealing the
right problem

Photo: http://leanactionplan.pl/o-nas/artykuly_lean/Lean-Office;183.html



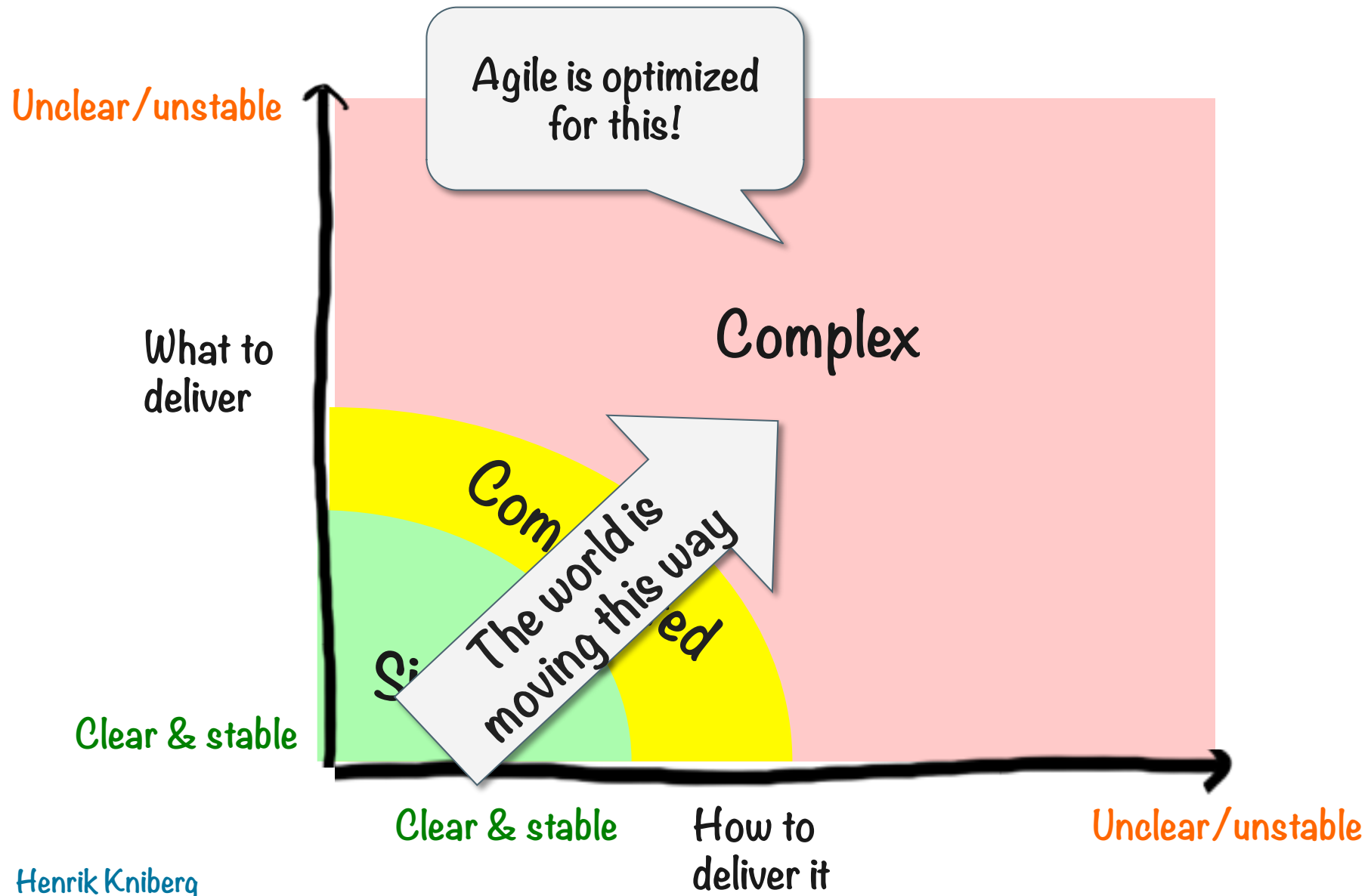
Henrik Kniberg

Unvalidated decisions = Inventory



Why is Agile
spreading so
fast?

Why is agile spreading so fast?



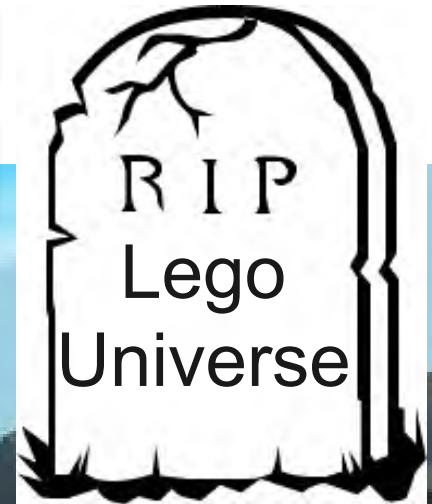




≈250 people involved

4 years to first public release

Shut down after 2 years of operation



Henrik Kniberg

Lego Universe Spider Cave



Brian Tyler



Henrik Kniberg



MINECRAFT

0.0.11a

750 fps, 0 chunk updates

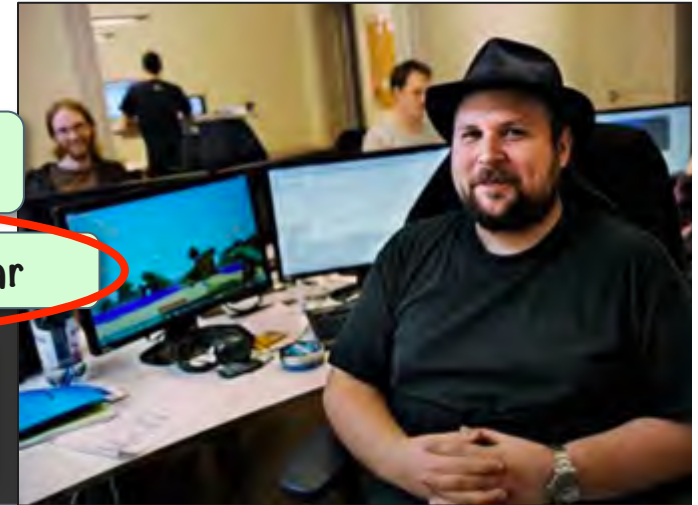
Built by 1-2 people

6 days to first public release

> 100 releases within first year

\$80 million revenue within first 15 months

Sold to MS for \$2.5 Billion!





4 years of development – 1000 man years!



Super Beautiful!
Kinda fun.
Low revenue.



2 years later...

Dead!



Beautiful enough.
SUPER fun!
LOTS of revenue!



Ugly, kinda fun.



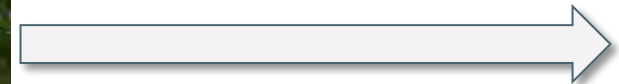
Few days of
development



100s of releases....



Fame & Glory &
Riches & Happy players!



The role of copy-paste

Spotify Engineering Culture (a.k.a. “The Spotify Model”)

The image displays two screenshots from a video presentation about Spotify's engineering culture. The top screenshot shows a hand-drawn diagram titled "Spotify Engineering Culture Part 1 & 2" with various sub-diagrams and icons. The bottom screenshot shows a more detailed hand-drawn diagram titled "Spotify Engineering Culture Part 2: Spotify Model" with numerous sub-diagrams, icons, and a timeline. Both diagrams are hand-drawn and include various icons and text. The bottom screenshot also features a video player interface with a play button, a progress bar, and a timestamp of 13:25. The video player is from Vimeo, as indicated by the "HD :: vimeo" logo in the bottom right corner.

Spotify Engineering Culture Part 1 & 2

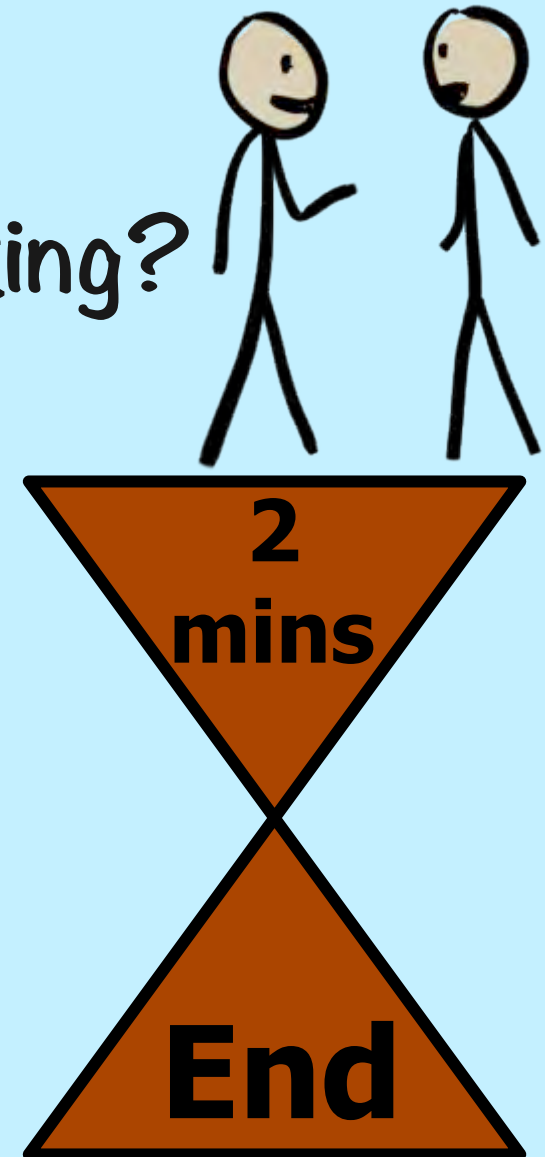
Spotify Engineering Culture Part 2: Spotify Model

13:25

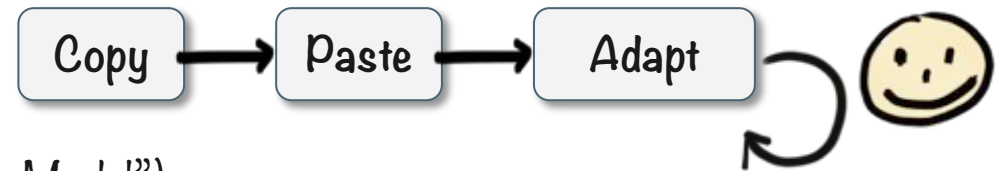
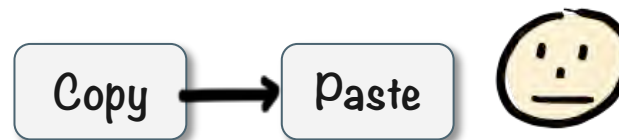
HD :: vimeo

2 minute standup discussion

Is it a good idea to copy-paste
another company's way of working?



The role of copy-paste



Spotify Engineering Culture (a.k.a. “The Spotify Model”)



The image displays two screenshots from a video titled "Spotify Engineering Culture". The top screenshot shows a hand-drawn diagram titled "Spotify Engineering Culture Part 1 & 2" with various icons and text. The bottom screenshot shows a similar diagram with more detailed notes and photos of the Spotify office. The video player interface at the bottom indicates the video is 13:25 long and is being viewed on Vimeo.

Is Agile a silver
bullet?

NOPE



Goal: Kick the ball out of my tent

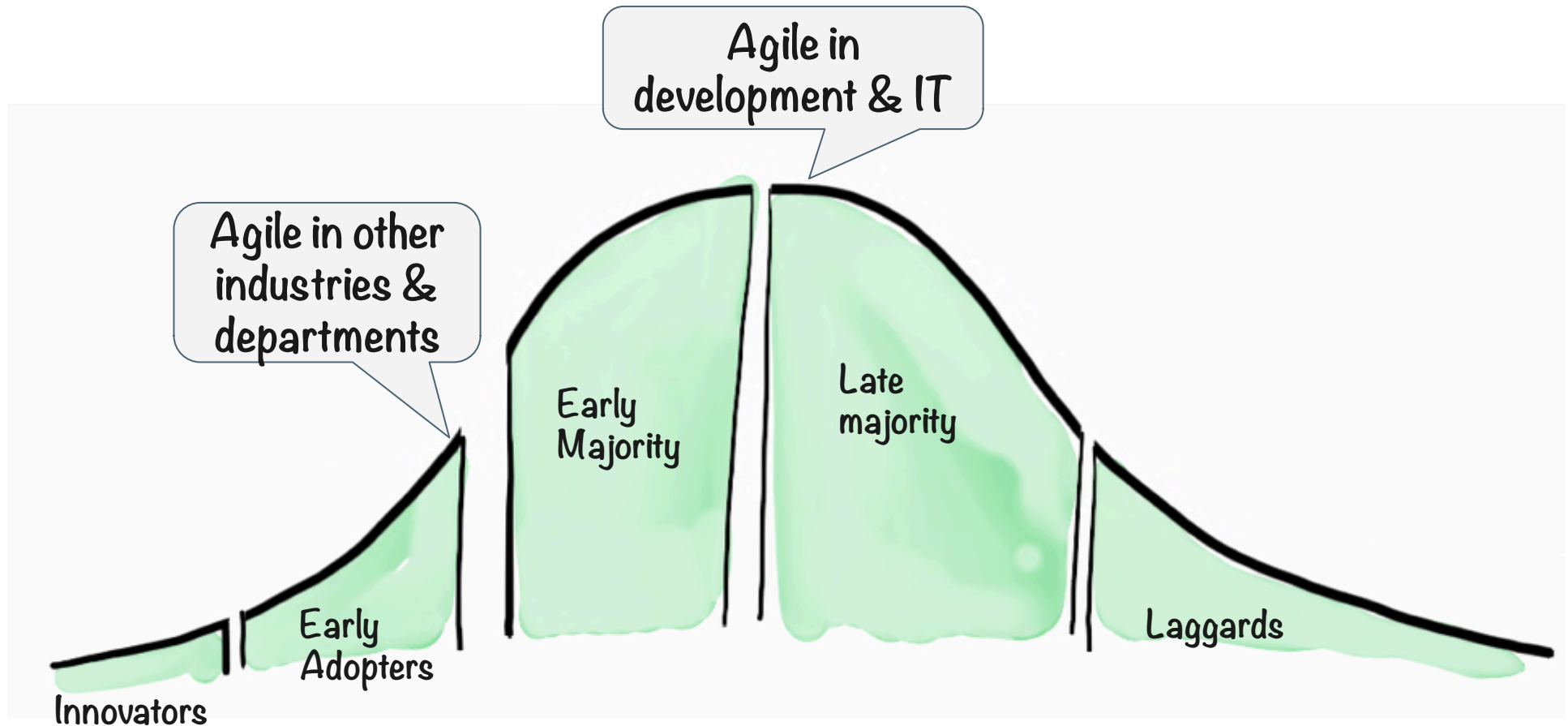


89:30
5 SCORE 1

Goal: Collaborate to win the game!

Agile outside IT

Agile is spreading fast



Agile Manifesto

www.agilemanifesto.org

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

Individuals and interactions over **processes and tools**

Working solutions over **comprehensive documentation**

Customer collaboration over **contract negotiation**

Responding to feedback over **following a plan**

That is, while there is value in the items on the right, we value the items on the left more.

JAS 39E Saab Gripen



Agile practices implemented at every level and in every discipline: software, hardware and fuselage design.

Pilots on the same site as development teams.
Direct feedback provided every sprint.

1500 people, all co-located in Linköping, Sweden.

World's most cost-effective military aircraft
(\$4700 Cost per Flight Hour)

Compared to F35 joint strike fighter, Gripen 39E has:

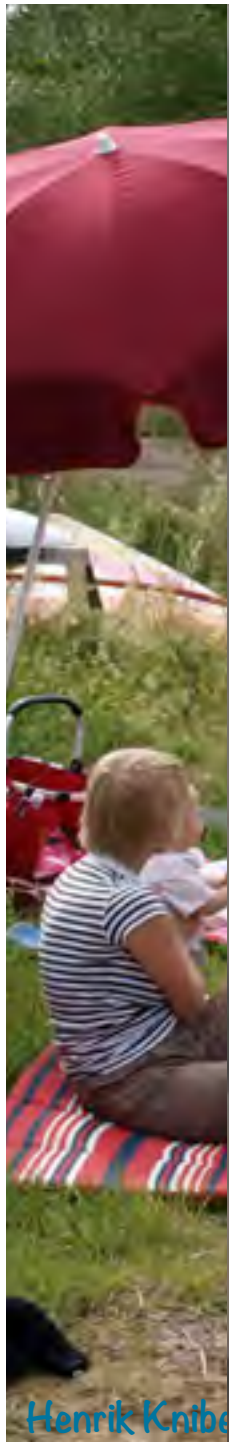
- 50x lower development cost!
- 10x lower unit cost!

Sources:

- <http://www.stratpost.com/gripen-operational-cost-lowest-of-all-western-fighters-janes>
- Personal visit to SAAB Linköping
- Research paper "Owning the Sky with Agile"

Henrik Kniberg





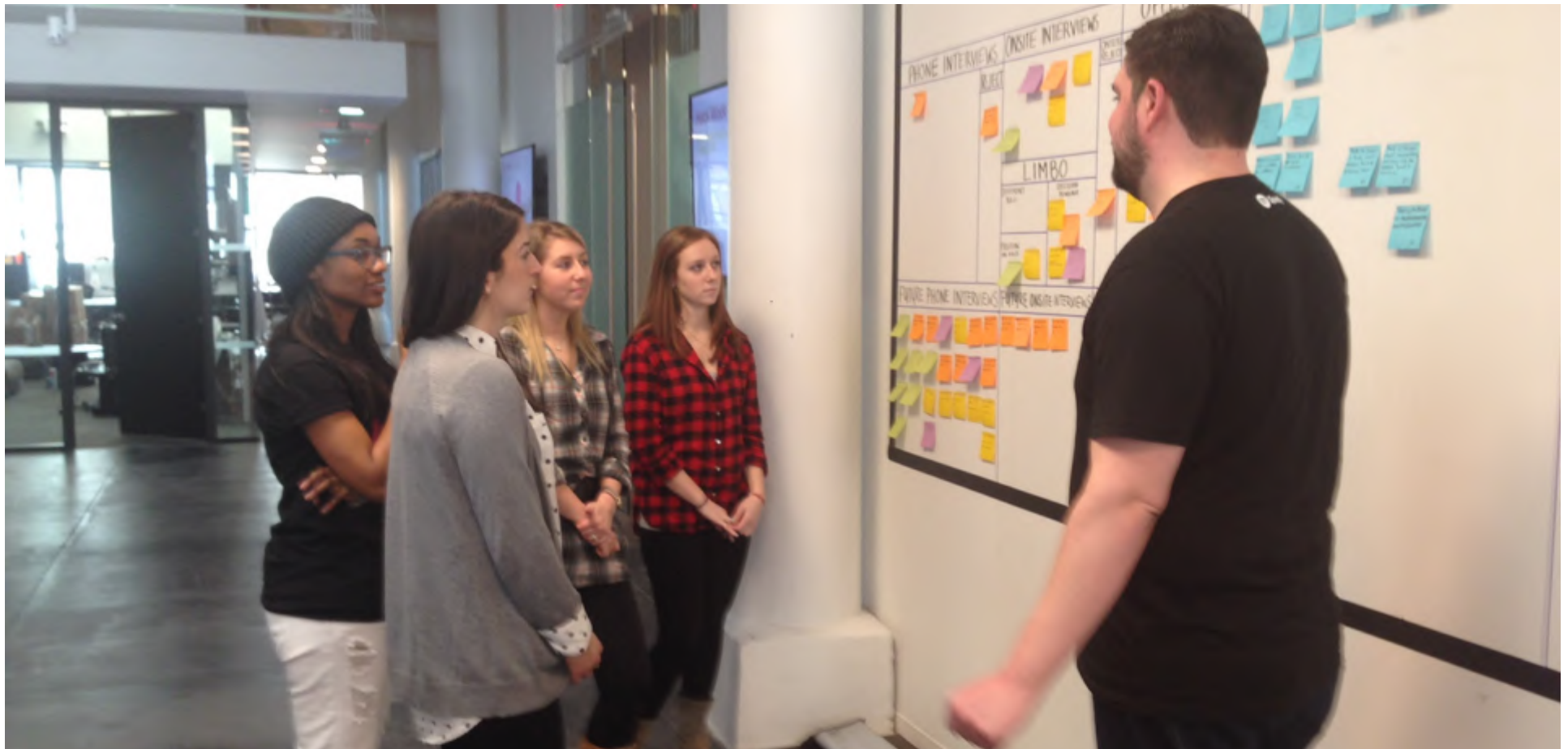
Henrik Knibbe

BBQ Board

To do	Going on	Done! 
		<div>Drink table </div> <div>Dip snacks </div> <div>Light the BBQ </div> <div>Orange Juice </div> <div>Veggie sticks </div> <div>Sallad </div> <div>Food serving table </div> <div>BBQ </div> <div>Ice cream </div> <div>Grapes + cheese crackers </div>



Recruitment team



Recruitment team

PHONE INTERVIEWS		ONSITE INTERVIEWS		OFFERS	
	REJECT		REJECT		DECLINE
					
	TOTAL 19		DECLINE		
TOTAL 10		TOTAL 10		TOTAL 3	
FUTURE		LIMBO	FUTURE ONSITES	HIRES ☺☺	
					

Scrum restaurant



Riccardo Mariti & Henrik Kniberg



Riccardo Mariti & Henrik Kniberg



Riccardo Mariti & Henrik Kniberg



Riccardo Mariti & Henrik Kniberg





Riccardo Mariti & Henrik Kniberg



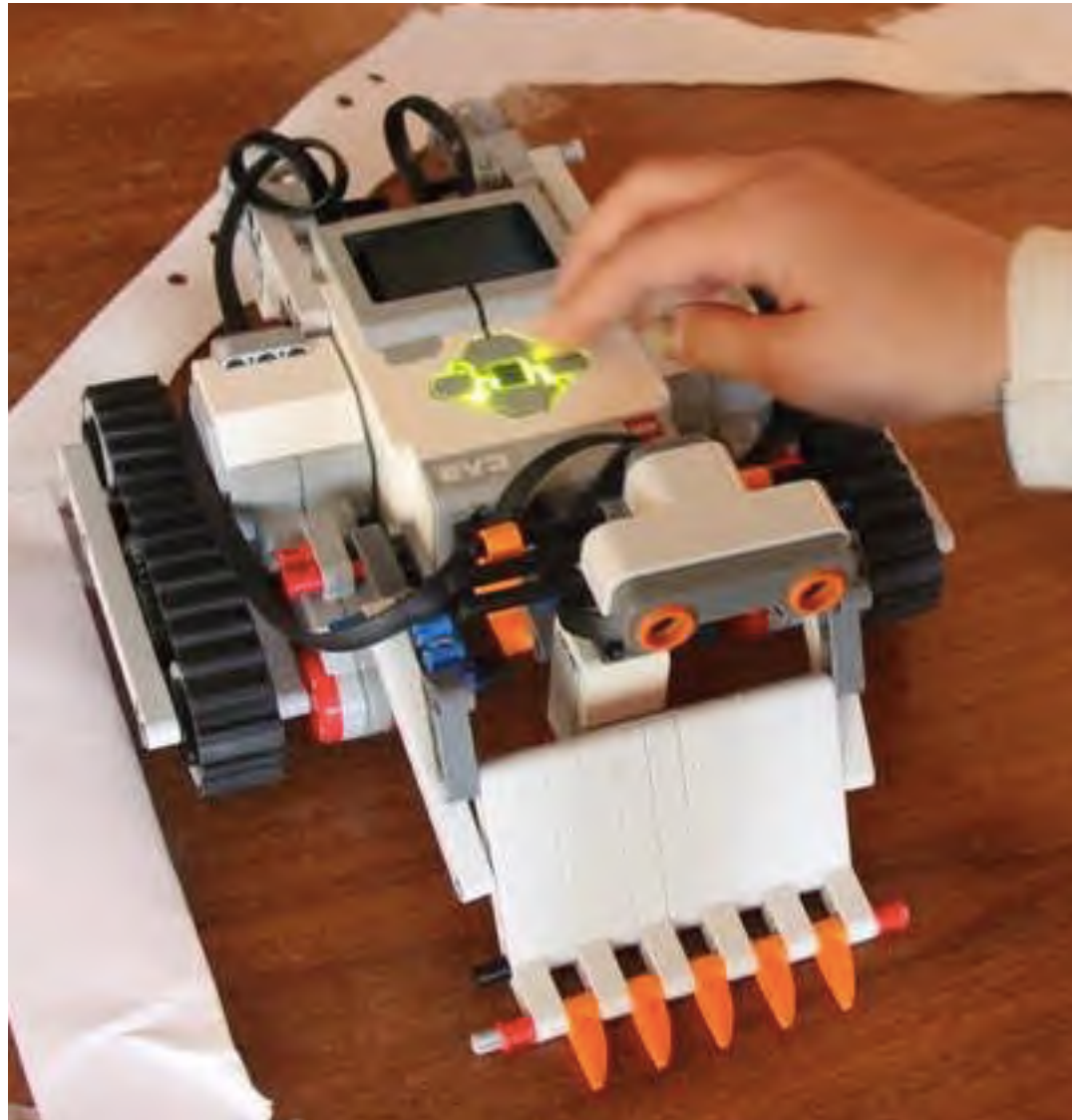
Riccardo Mariti & Henrik Kniberg





The story of Robbit

Robbit



Henrik Kniberg



Henrik Kniberg

2 kids & rookies with very
little robot experience...

... vs ten teams of
adult geeks and
programmers

Ops: Oct 7-8, 2015



LEGO® MINDSTORMS® COMPETITION

Do you have what it takes to fight and win the competition of the future? - Then sign up and enter the LEGO® MINDSTORMS® Robotic competition at GOTO Copenhagen 2015 and win fabulous prizes on top of the fame and glory!

How to enter the game?

1. Form a team of 2-5 members (NB: Only conference attendees can join the competition)
2. Build your own intelligent, autonomous robot before the conference (use your own LEGO® MINDSTORMS® Robotic Toolkit or borrow one for free when registering to the competition)
3. Pitch it against the robots from other teams at the GOTO Conference Dinner, Monday October 5, 19:30-22:30
4. There will be prizes for the winning team

GOTO Cph 2016

GOTO Copenhagen 2016 will take place in Bella Center. Mark the days already: **October 3-6, 2016**

Said about GOTO

We have collected quotes from blogposts and articles etc. about GOTO Copenhagen 2015 on a single page

GOTO Community

Join the worldwide GOTO Community:



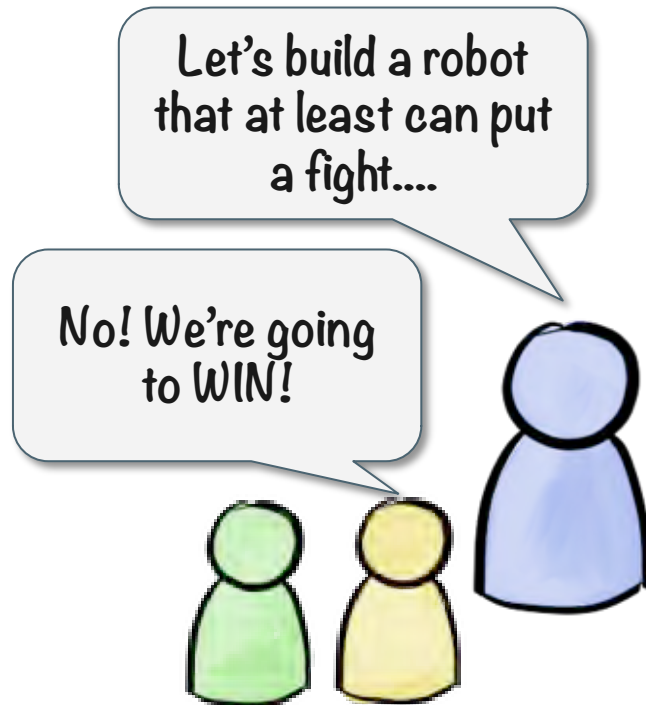
Platinum sponsor

Nordea

I ♥ GOTO

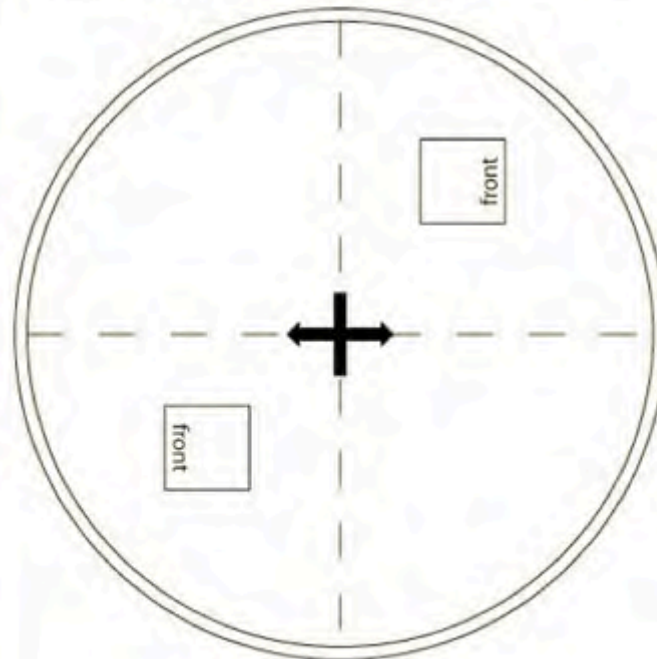
*GOTO is definitely the best place to get a feeling for the newest trends. If there was just one conference I would attend to keep up with what is

Step 1: Set a clear goal (define “success”)



The Rules

1. The two sumo robots are placed as shown in the picture below with the front pointing away from each other.
2. On the judge signal the sumo robot's program is started. The robot have to wait 3 seconds before it starts being active.
3. A match lasts at most 2 minutes.
4. A sumo robot wins, if the other sumo robot is knocked over or pushed outside the ring. A sumo robot is outside the ring, if it touches the surface that supports the ring. If a sumo robot drives outside the ring by itself the sumo robot has lost.
5. If none of the sumo robots have left the ring or has been knocked over within the 2 minutes the match ends with a tie. If both sumo robots leaves the ring at the same time the match also ends with a tie.
6. The winner of a match receives 2 points, while both teams receives 1 point if the match ends in a tie, and the loser of a match receives 0 points.
7. A sumo tournament can be run with groups, sessions, semifinals, multiple rounds per match, etc, depending on the number of teams participating.



Agile

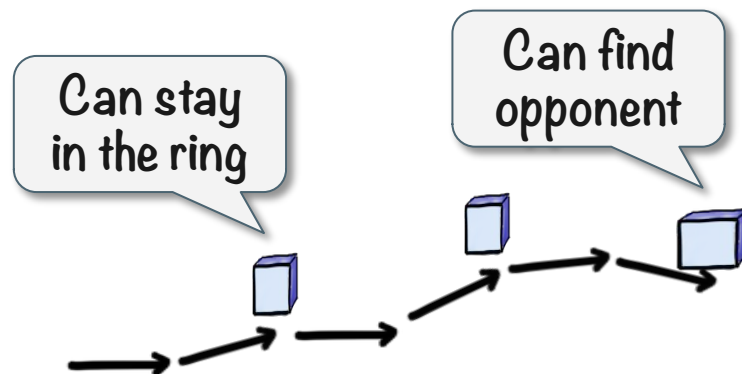
**I'M GOING TO HAVE TO ~~SCIENCE~~
THE SHIT OUT OF THIS**



Step 2: Build a Minimum Viable Robot (Earliest Testable Robot)



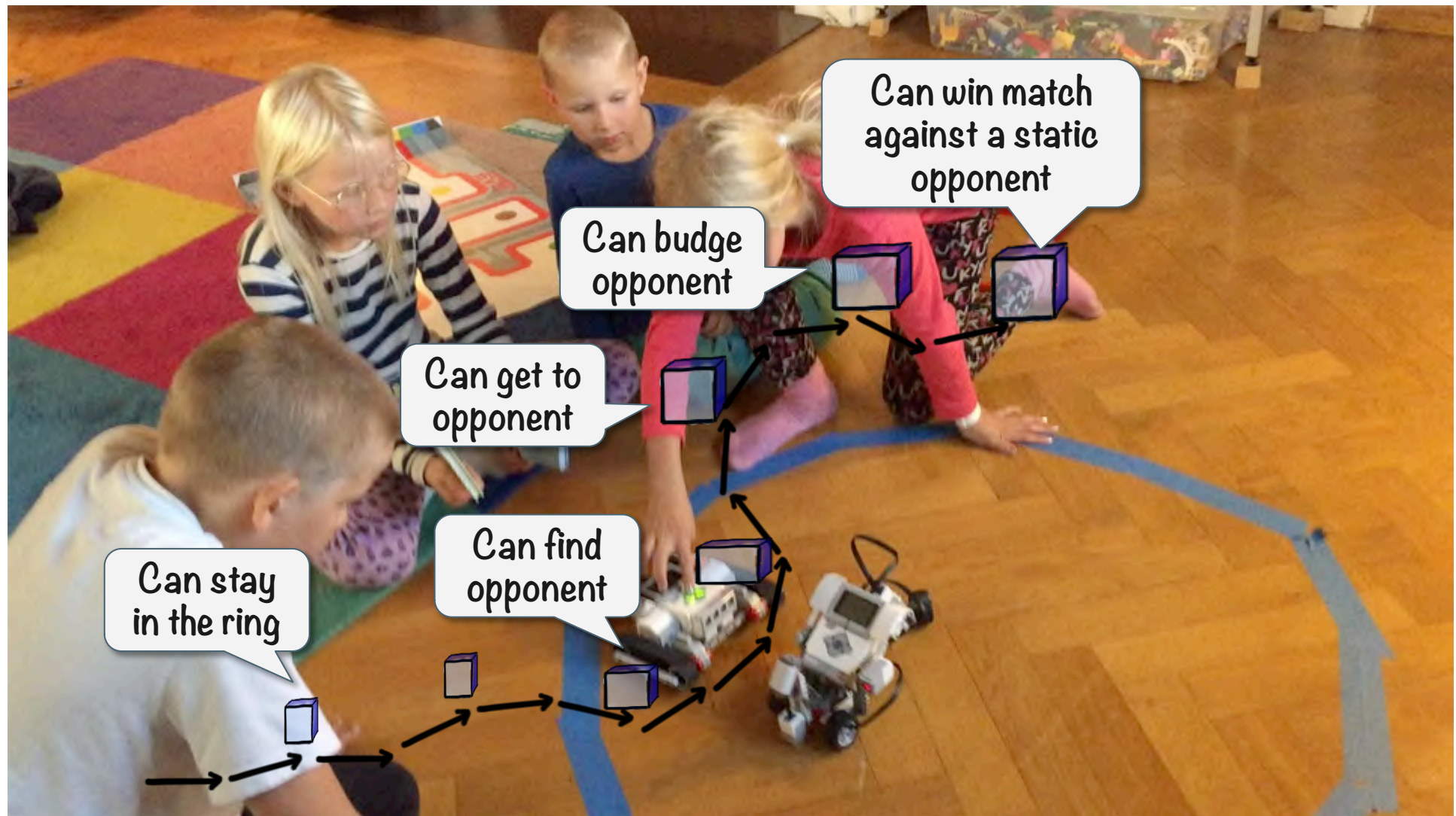
Aim for the clouds,
but deliver and test in small steps



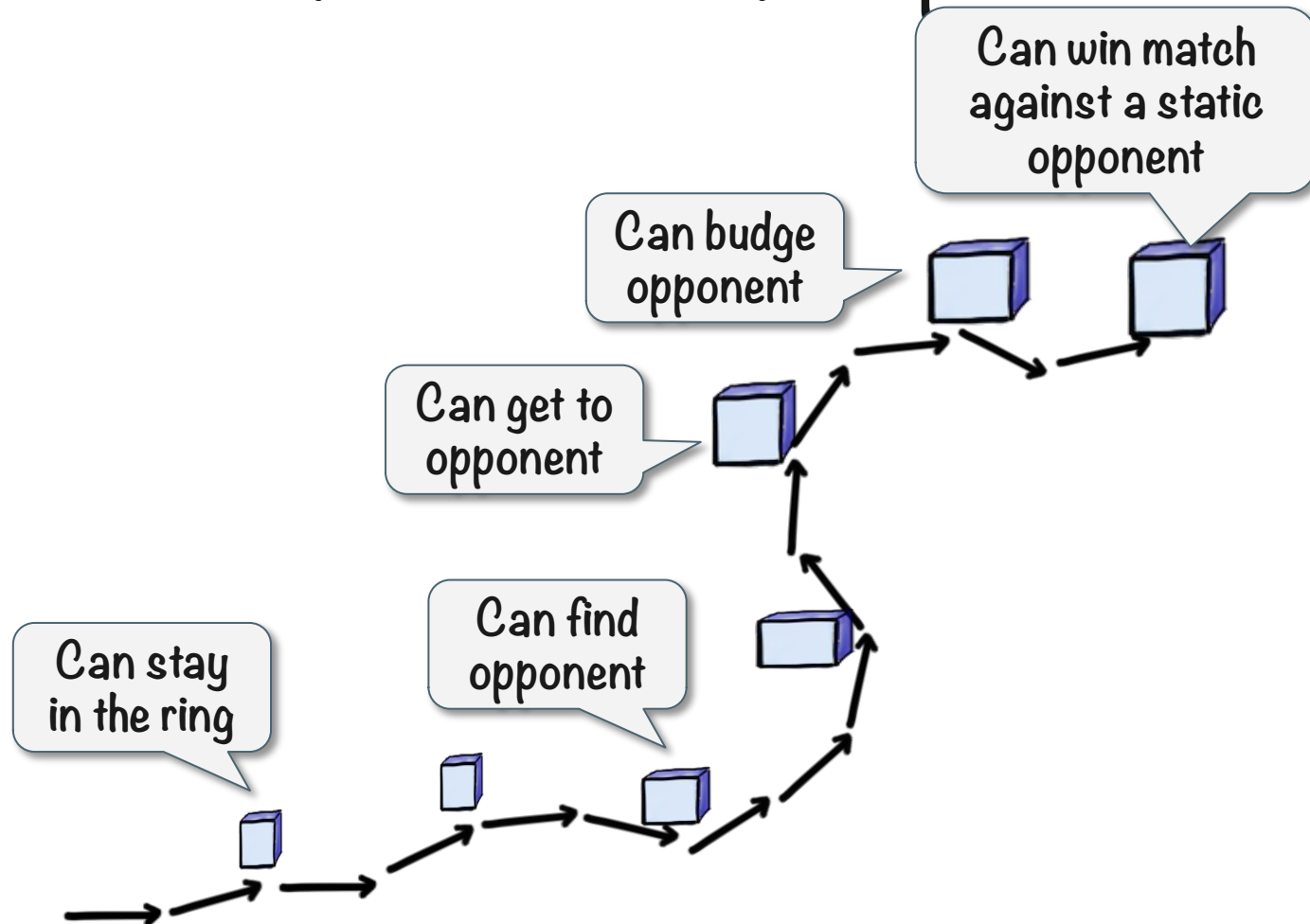
Step 3: Build an opponent to practice against



Field test, Field test, Field test



Aim for the clouds, but deliver and test in small steps



Lifter? Or no lifter?

Hypothesis:

- Mechanical Lifter can help us win

Experiment:

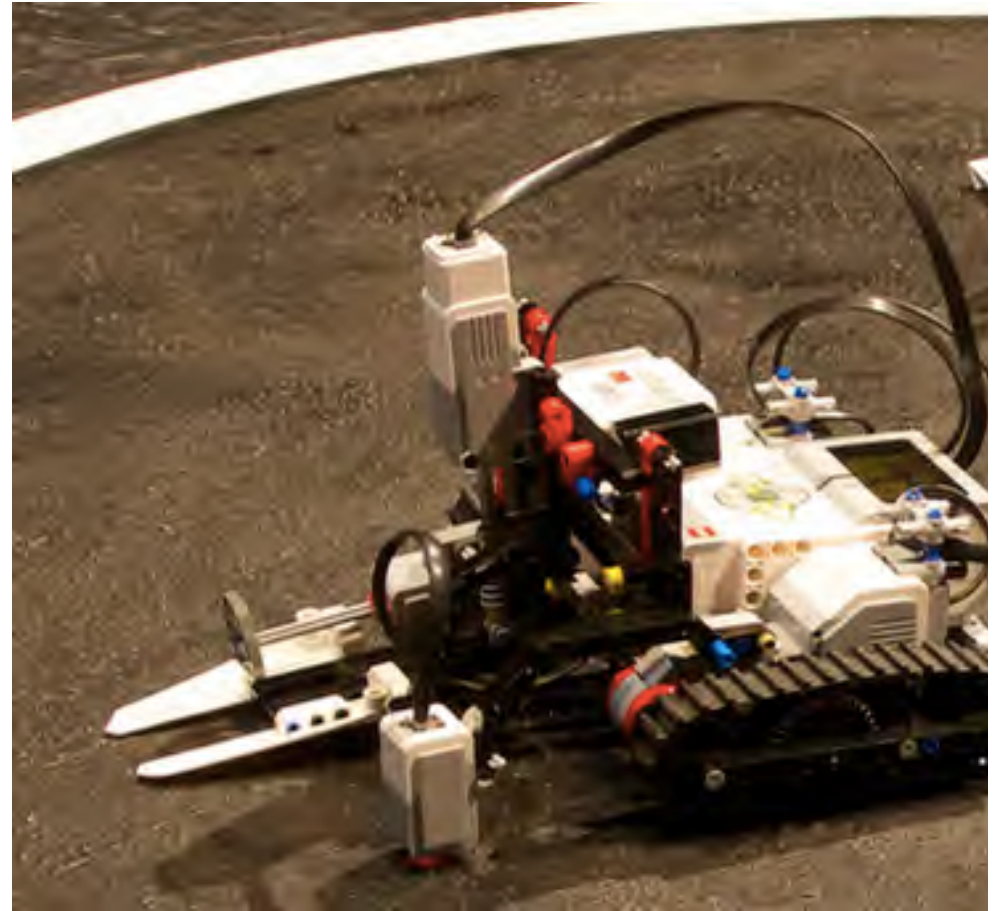
- Build a simple lifter and try

Learning:

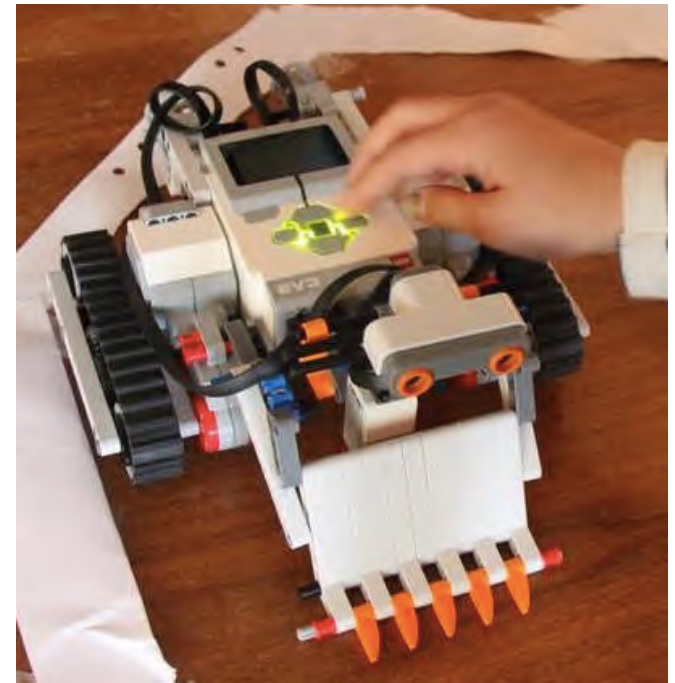
- Works as designed...
- But too weak to lift opponent
- ... so it doesn't help us win!

Options:

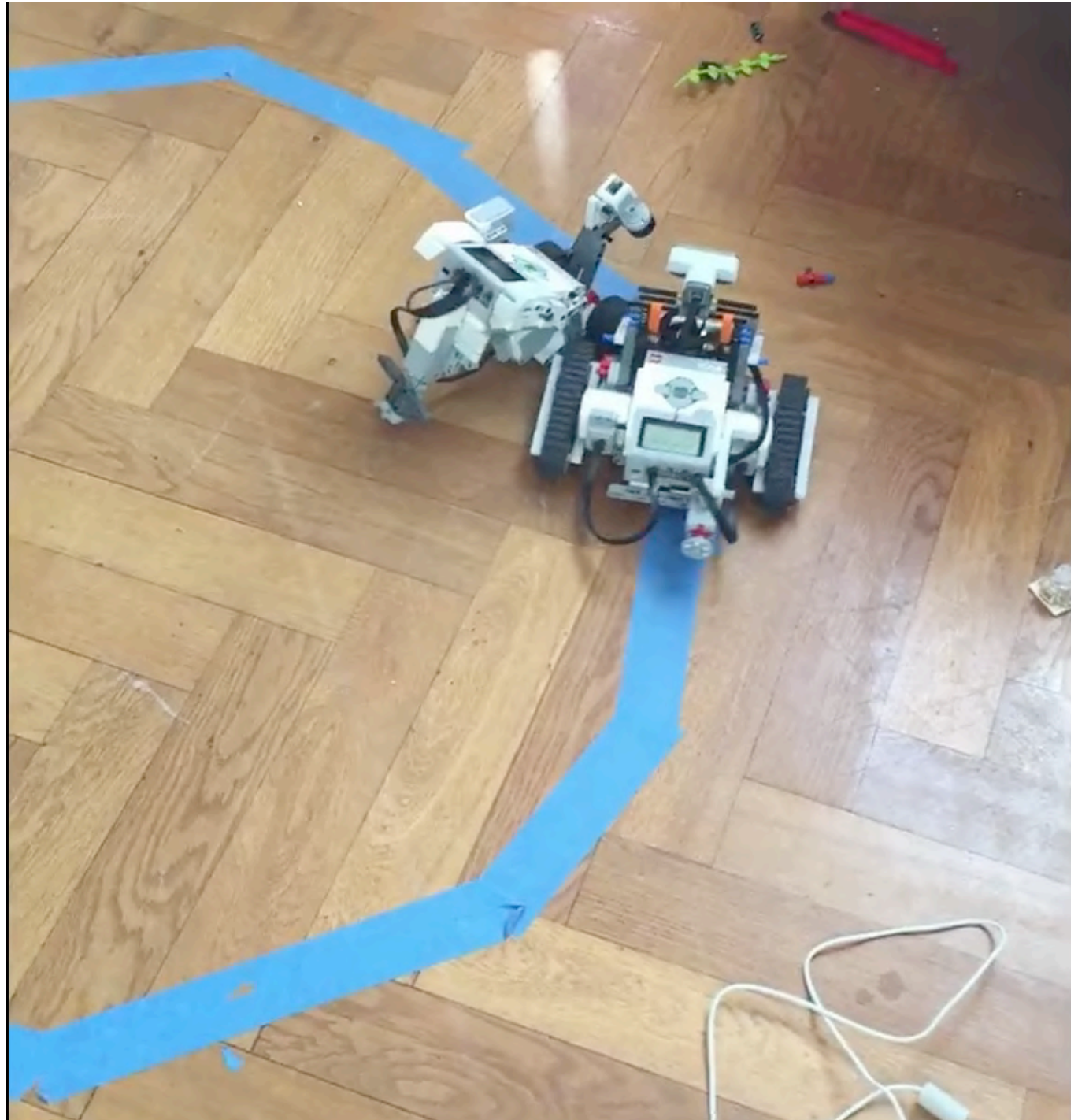
- Keep it cuz it's cool (who needs to win anyway)
- Improve it
- Remove it, try a different approach

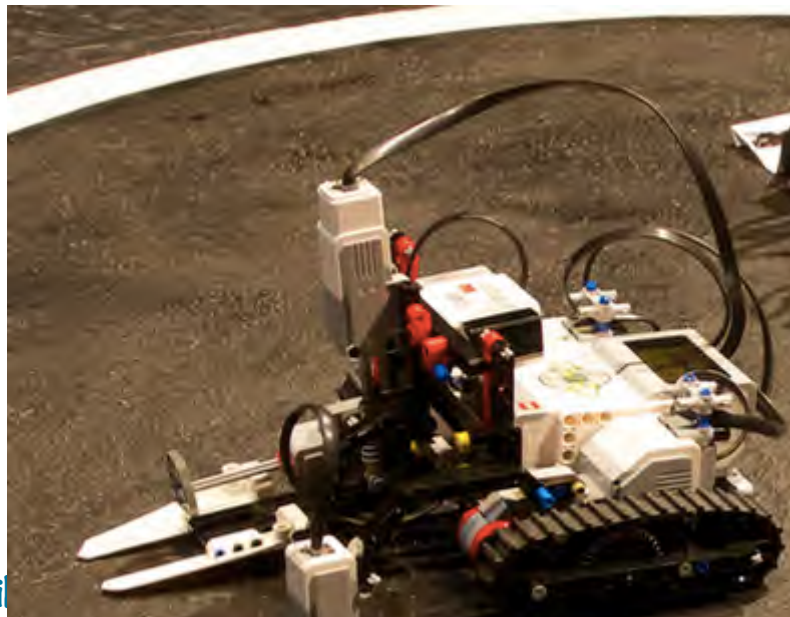


Simpler was better



Field testing =
Success by
100 failures

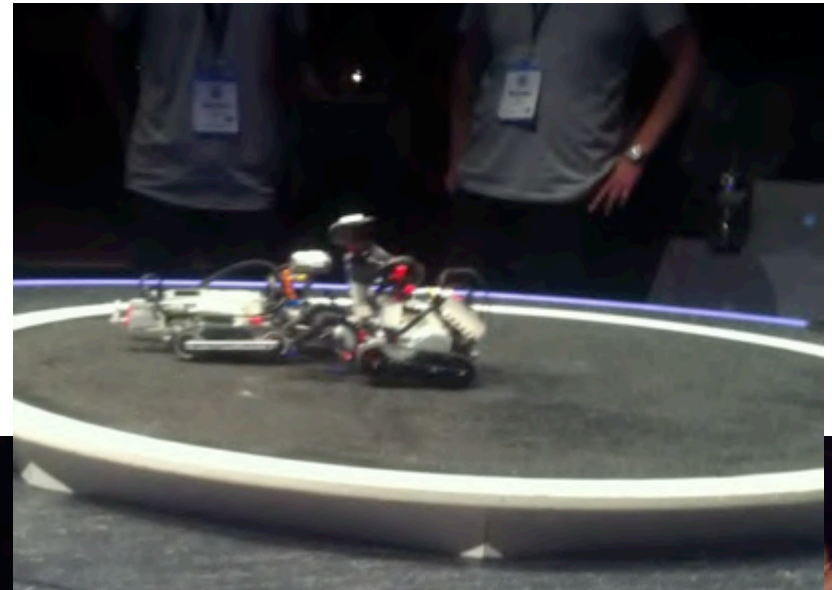




Henri



Henrik Kniberg



Henrik Kniberg



Henrik Kniberg

How could they win?

Building skill? No.

Programming skills? No.

Luck? Partly, but not entirely.



- 1) Clear goal
- 2) Low self-confidence
- 3) Emergent design
- 4) LOTS of field testing!





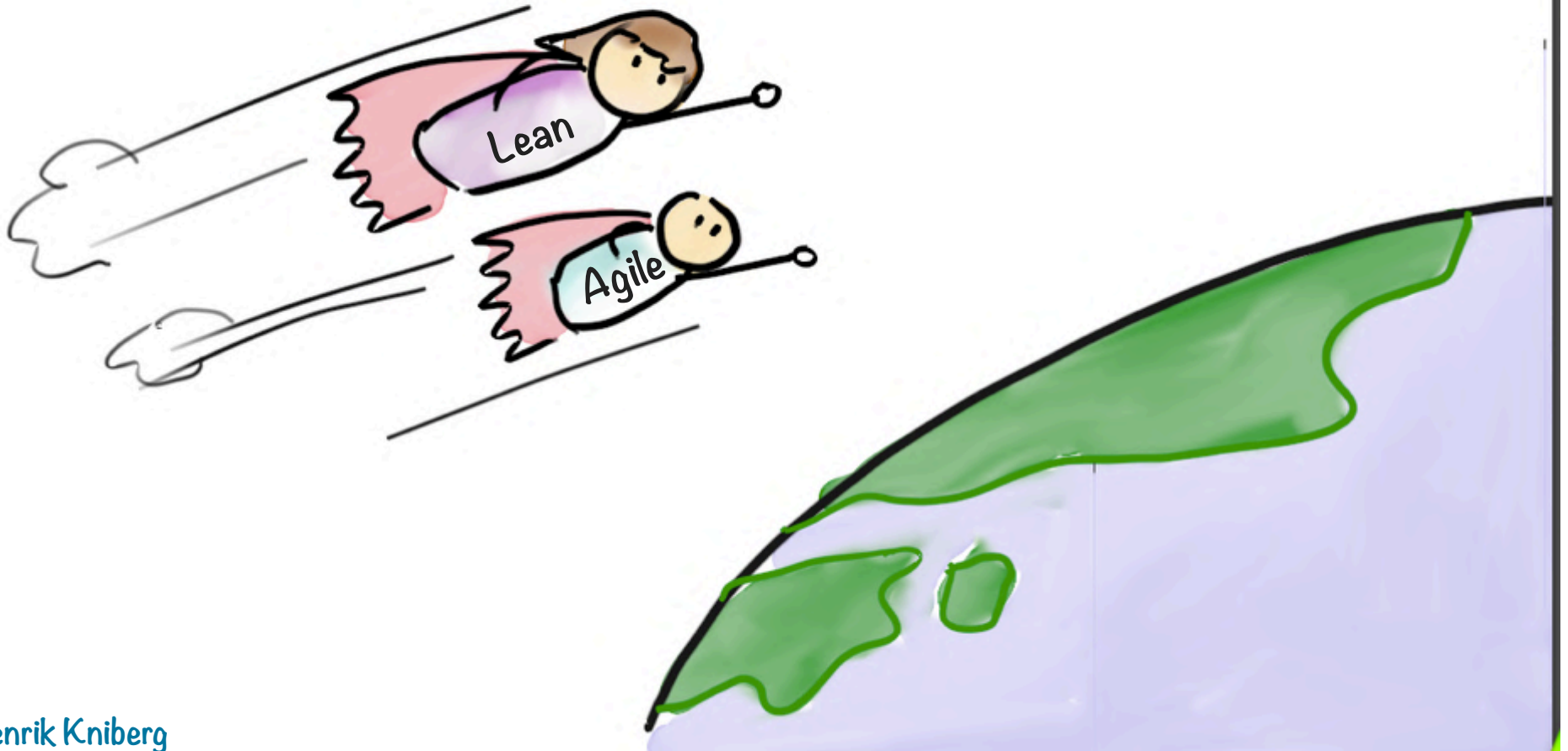
Henrik Kniberg

4 years to revolutionize space travel



The Biggest Problem in the World

Lean + Agile can be a super power!
How will you use it?



The Biggest Problem In The World!



Henrik Kniberg

Radical innovation needed

Energy production & storage



Carbon capture & storage



Transportation



Agriculture





Roll-out solar panels

Concrete Battery



YouTube



Don't Panic

Friendly Guide to Climate Change

and what you can do to help

Henrik Kniberg
March 2017



0:23 / 16:52



Thank you!

