

**Gather together people
with all the needed
skills and knowledge**

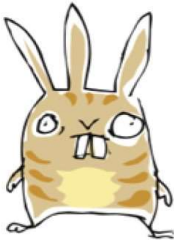


Completely Different, All Together

Illustration © 2012 - Andrea Zulli



**This seems
preposterous**



Definition:
**Contrary to reason or common sense;
utterly absurd or ridiculous.**

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**It is NOT:
5 people watching 1
person coding.**

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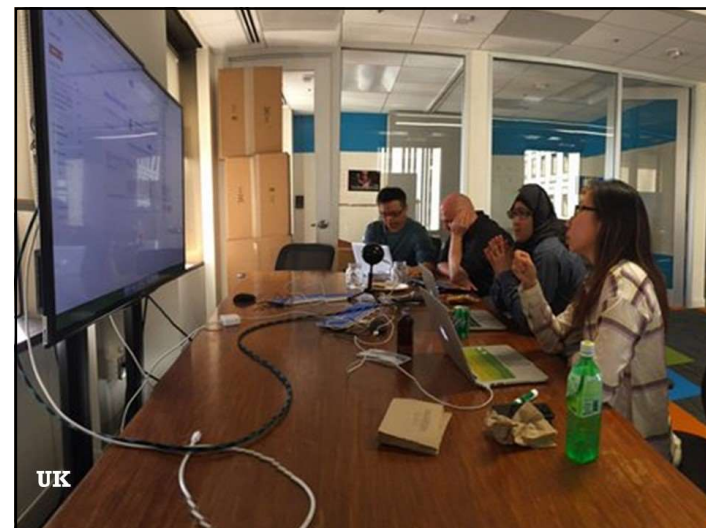
Driver/Navigators

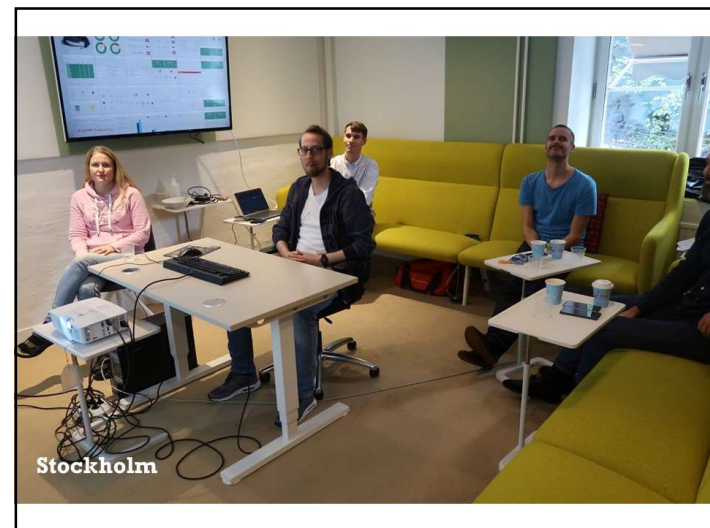
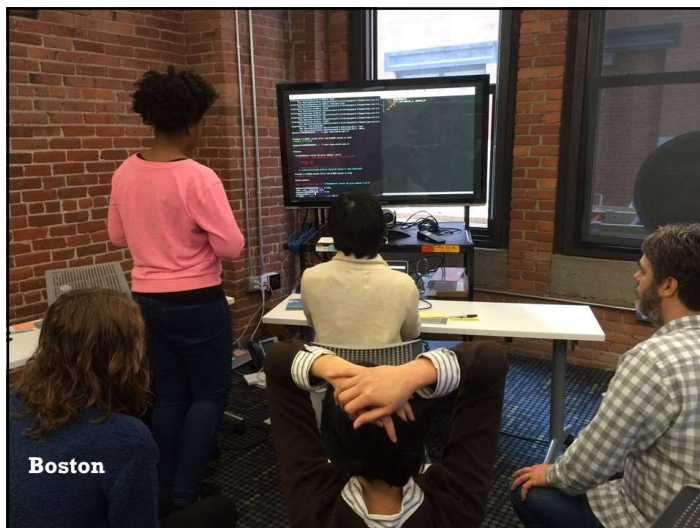
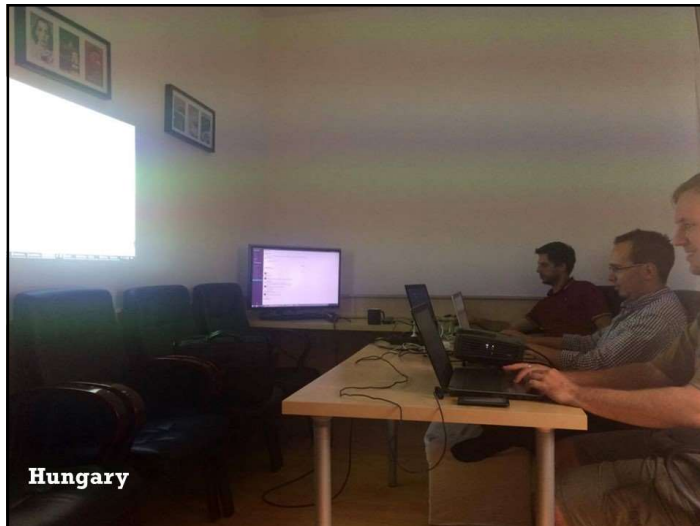


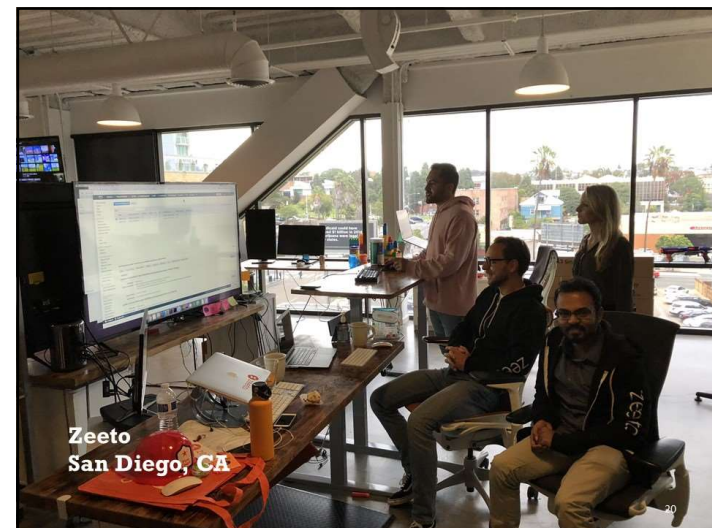
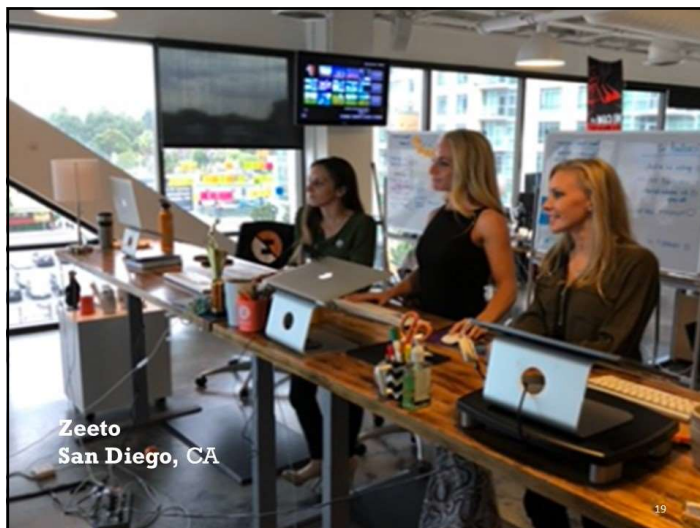
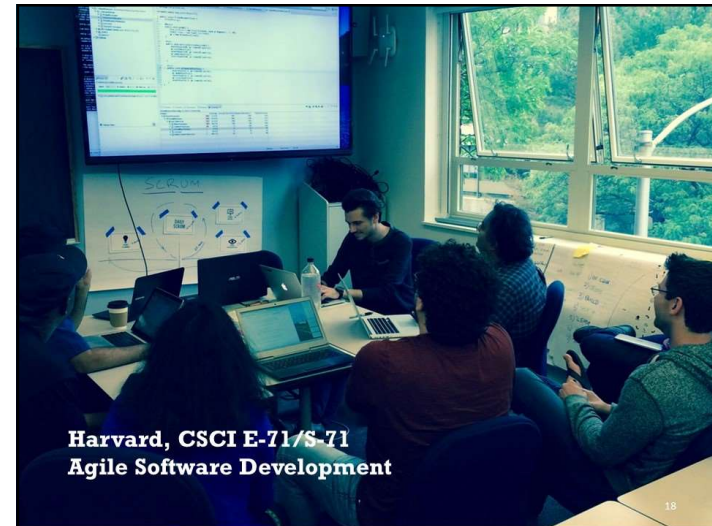
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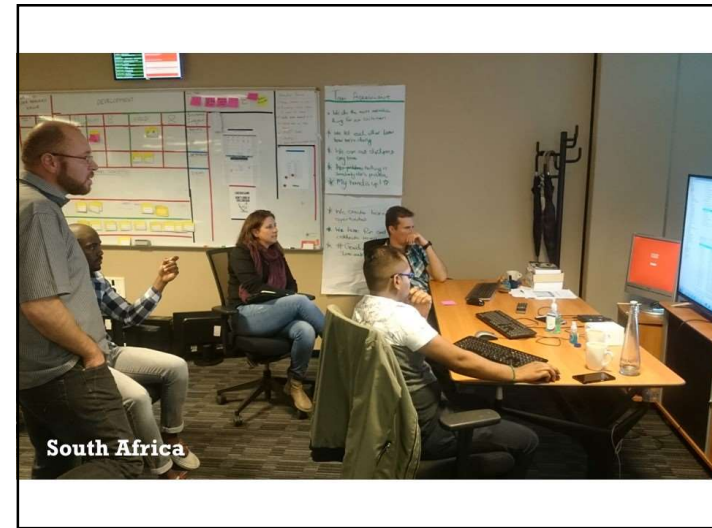
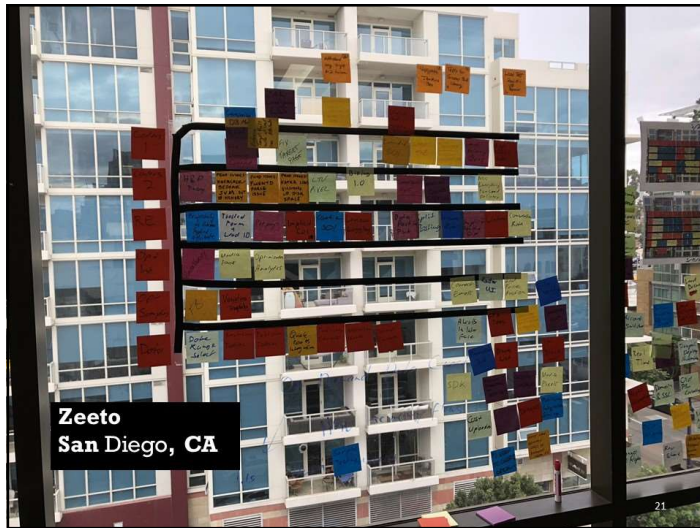
This is being done
all over the world.

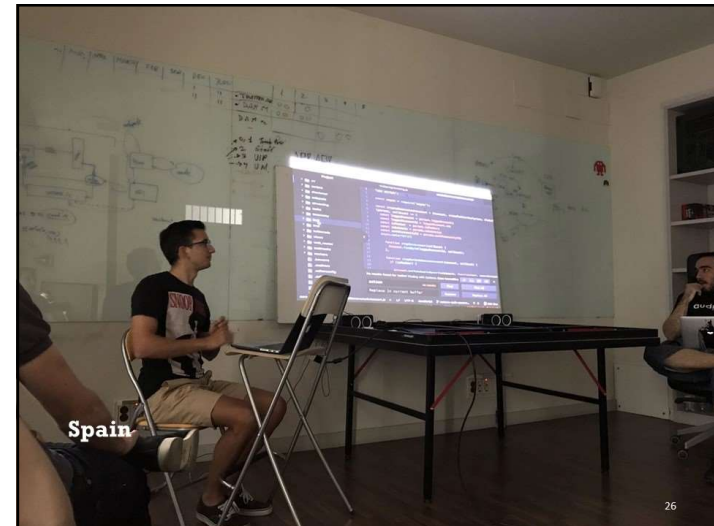
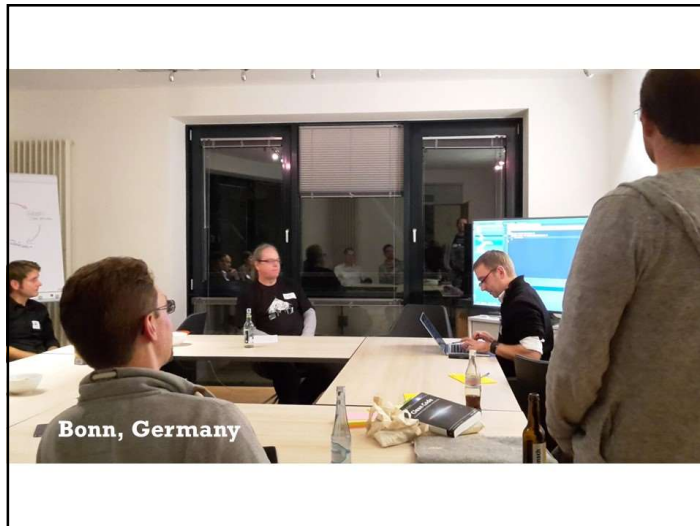
Hunter Industries
San Marcos, CA

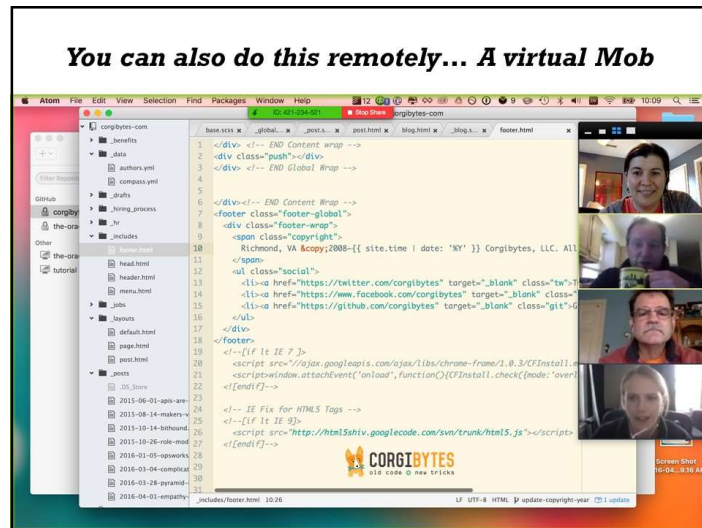








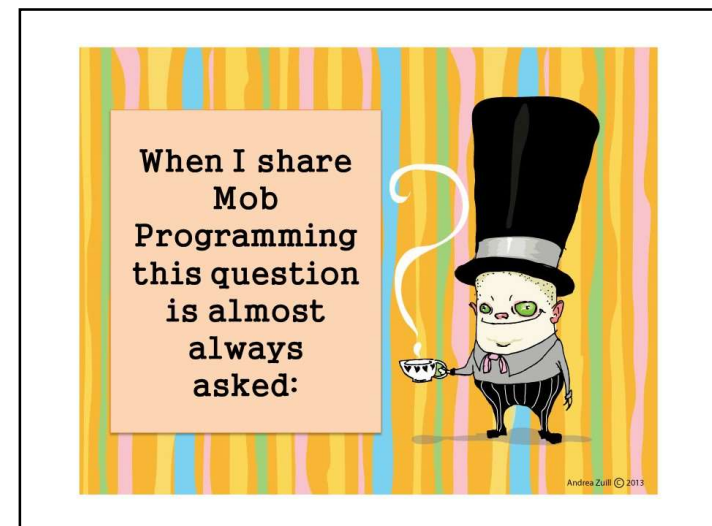




Why would we work this way?

- Knowledge sharing
- Continuous code and design review
- Many perspectives on the work
- Work on the right things
- Rapid feedback
- Better solutions
- Flow of work items
- Higher quality
- More fun, less stressful, more engaging... etc.

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**How can we be productive
with 5 people at one computer?**



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**I don't know.
Does that matter?**



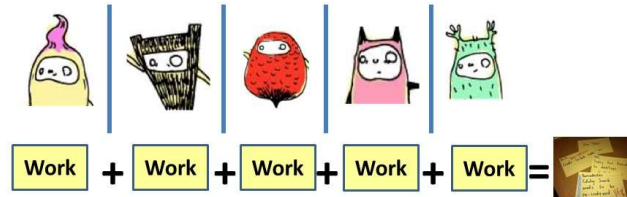
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We were paying attention

Here is what we noticed

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Working Separately



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But working together



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VS



**Not just more stuff
The more useful stuff
It was better done
And of higher quality**

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VS



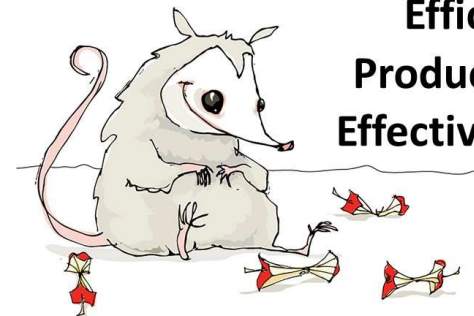
**“A system is not the sum of the
behavior of its parts,
it’s the product of their
interactions.”**

Russel Ackoff

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About Productivity

**Efficiency
Productivity
Effectiveness**



Andrew Zaltz © 2011

Efficiency

- How well we do things
- Minimum wasted effort or expense in doing the work
- Goal: More output for same input
- Problem: Busywork - lot's of work, no output.

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Productivity

- Something is getting “done”
- Measure of outputs divided by inputs
- Problem: Could be the wrong things are getting done

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Effectiveness

- Doing the “right things”
- Complete the important things, the valuable things
- Get feedback to learn
- Adjust accordingly
- Getting the impact we “want”

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Condensed:

Efficiency = Doing things right

Productivity = Output / Input

Effectiveness = Doing right things

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Why I'm after effectiveness:

Efficiency: Busywork

Productivity: Wrong things

Effectiveness: Right things

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I wanted
a better
question



“Transformation comes more from pursuing profound questions than seeking practical answers.”

Peter Block
Book:
The Answer to “how” is YES!

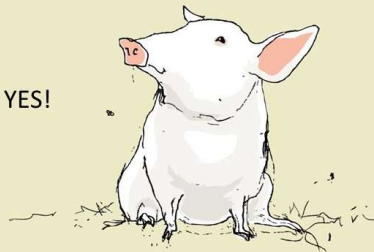
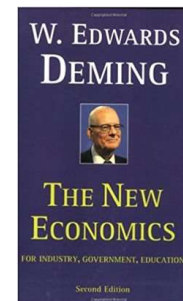


Illustration © 2012 - Andrea Zuill

W. Edwards Deming



W. Edwards Deming

“If you do not know how to ask the right question, you discover nothing”

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Tim Ottinger

“The answer is not in the answers”

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How can we be effective with 5 people at one computer?



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Let's Flip This Over



Jenny loves Kitty

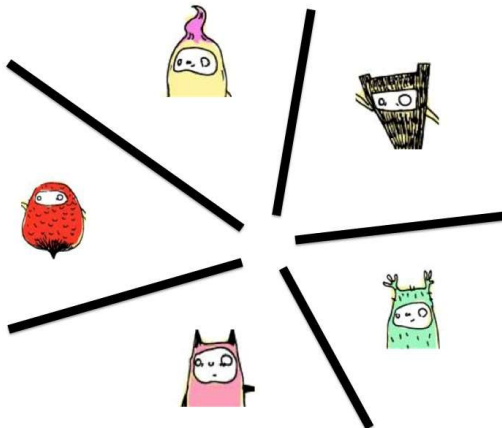
What is a possible “reverse” question to
“How can we be effective
with 5 people at one computer?”



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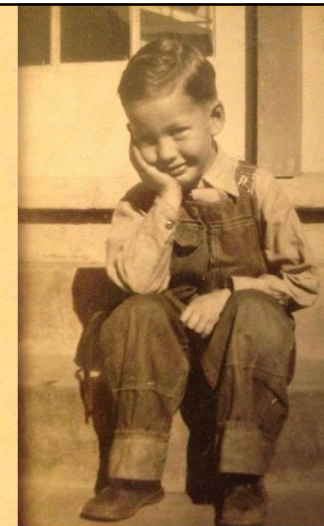
Effectiveness Question

How can we be effective if we
separate the people who should
be working together?



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This led
to a
better
question



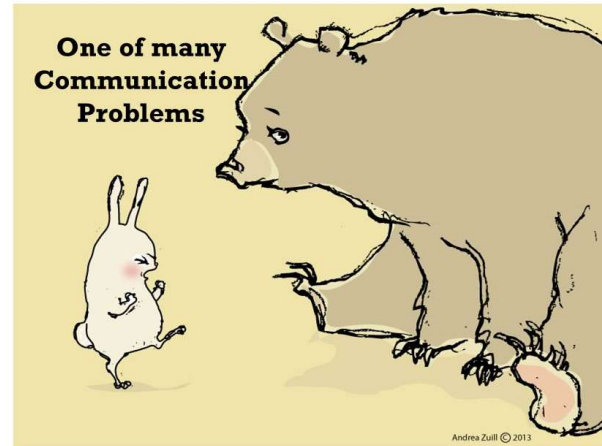
We noticed many problems simply faded away when we started Mob Programming!

Communication Problems
Decision Making Problems
Doing more than is barely sufficient
Technical Debt, and etc.
Thrashing
Politics
Meetings
Many, many others



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One of many Communication Problems



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Question Queue Time

The amount of time we must wait to get an answer to a question that is blocking us



Andrea Zull © 2013

Question Queue Time Value Stream Map



**As an example:
One Hour, One Question**

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Question Queue Time

Zero Queue Time – No Waste

Two Minute Queue Time – Wasting 16 minutes a day



Ten Minute Queue Time – Wasting 70 minutes a day



One Hour Queue Time – Wasting 4 hours a day



One Day Queue Time – Wasting the whole day!!!



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How do we typically solve this?

One task we are working on



What do we do while we are blocked?

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How do we typically solve this?

One task we are working on



We increase inventory so we can stay busy



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How do we typically solve this?

We work on many tasks to keep us busy



Symptom? – Not busy
Problem? – Waiting for answers

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How do we typically solve this?

Work on many tasks to keep us busy



Let's not "solve" queueing symptoms by introducing an inventory problem

Note: Inventory is work we've started on, but is not yet delivering value

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How did we Solve This?



Zero Queue Time

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How did we Solve This?



Zero Queue Time



Two Minute Queue Time



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How did we Solve This?



Zero Queue Time



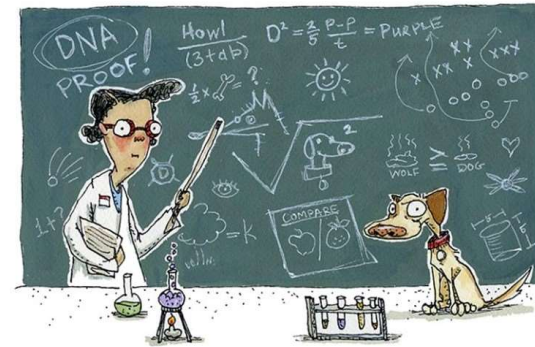
"Automatic" One-Piece Flow

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Flow

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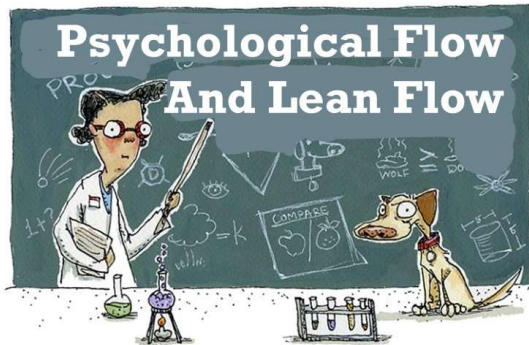
Flow vs. Flow



Andrea Zull © 2016

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Flow vs. Flow



Andrea Zull © 2016

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Flow

Mihaly Csikszentmihalyi


Author and Psychology Professor

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Flow


"A state in which [a person] is so involved in an activity that nothing else seems to matter."

Csikszentmihalyi, 1990



Flow

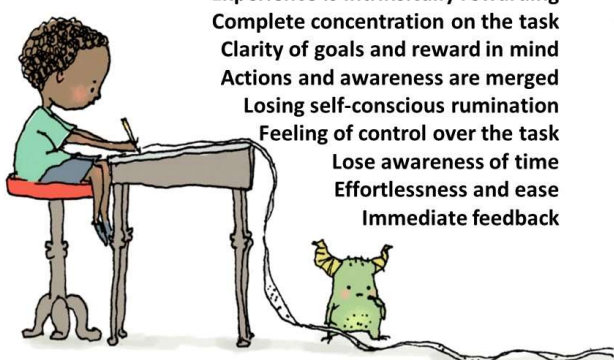
"You are so involved in what you're doing, ...you don't see yourself as separate from what you're doing."




A rock climber (Csikszentmihalyi 1975, p. 39).

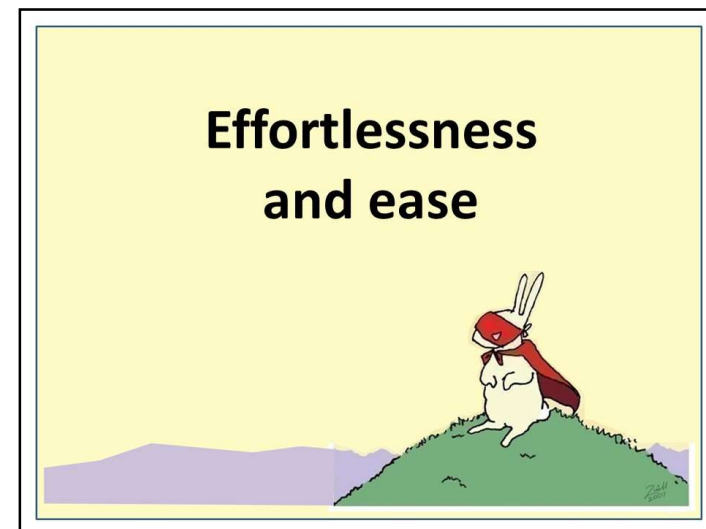
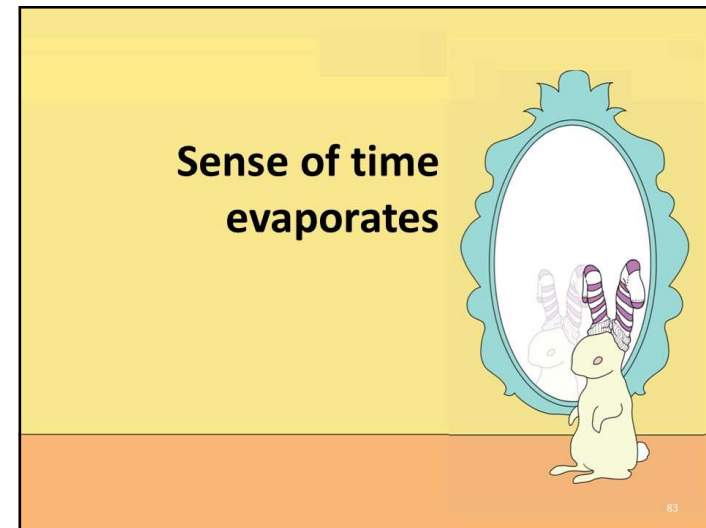
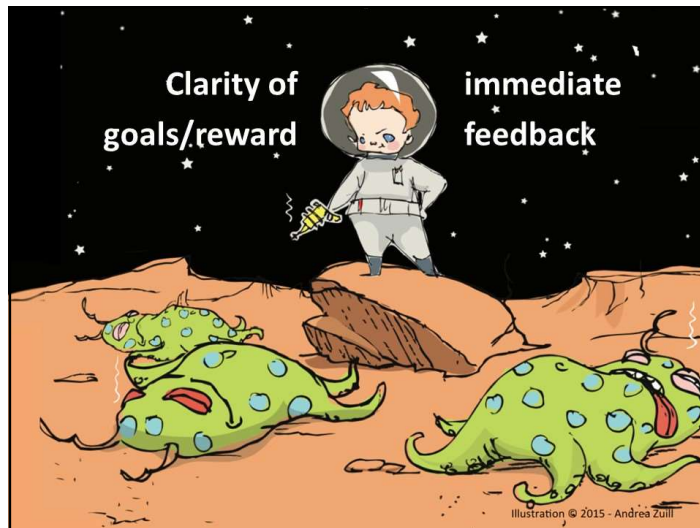
The Nature of Flow

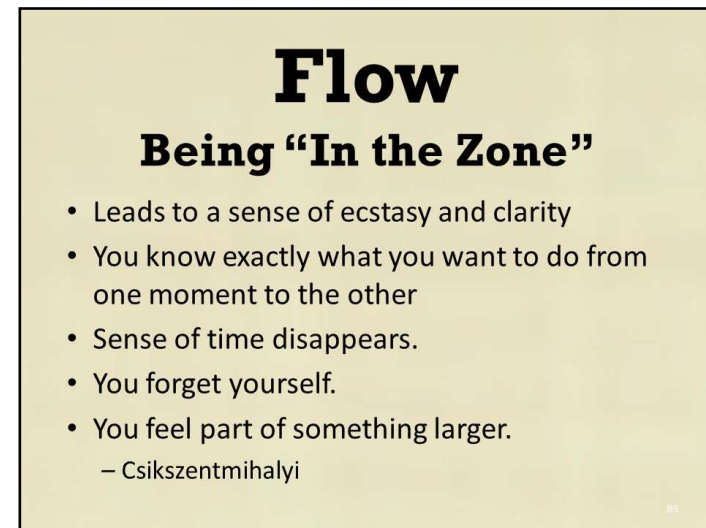
- Balance between challenge and skills
- Experience is intrinsically rewarding
- Complete concentration on the task
- Clarity of goals and reward in mind
- Actions and awareness are merged
- Losing self-conscious rumination
- Feeling of control over the task
- Lose awareness of time
- Effortlessness and ease
- Immediate feedback



Complete concentration on the task







**Do we destroy this when
we work as a team?**



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**Can we get this
“Flow” in a team?**



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Team Flow

- Collective ambition
- Common goal
- Aligned personal goals
- High skill integration
- Open communication
- Safety
- Mutual commitment
- Sense of unity
- Sense of joint progress
- Mutual trust
- Holistic focus



Team Flow
From Concept to Application
Jef van den Hout

Jef van den Hout 96



But...
There is another
kind of flow.
Flow, as in Lean



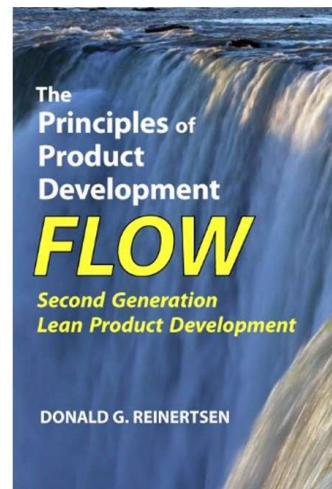
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Flow In Manufacturing [simplified]

- **Complete production of one piece**
- **From start to finish**
- **With as little work in process (inventory) and as little waiting (queueing) between operations as possible**



Well
Worth
the
Read



The Principle of Queueing Waste:

Queues are the root cause of the majority of economic waste in product development

Donald Reinertsen



Queues create:

Longer cycle time
Increased risk
More Variability
More overhead
Lower quality
Less motivation

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Value Stream Map



Green: The Right Work Getting Done
 (includes exploring, experimenting, discovery)

Red (Waste): The Wrong Things

Examples: Waiting, Merging, Arguing, Discussing rather than trying things, Work that doesn't need to be done, Doing the "Wrong Thing", Failure Demand, meetings, coordination, prioritizing... ad nauseam

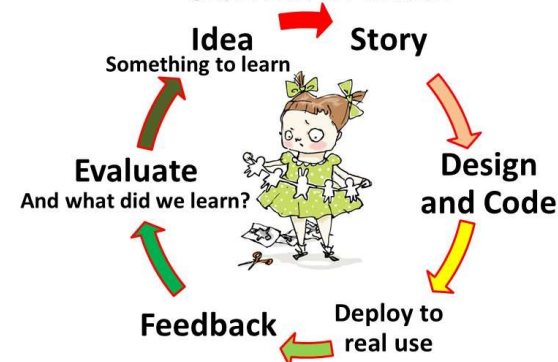
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3

Flow with Software Development:

Each Story flows from "idea"
to delivered, working software
directly
without queueing, waiting, distraction,
interruption, or multitasking



The Small, Inexpensive, Attempt at Value ONE AT A TIME



**With Mob Programming
what do we want to
optimize for???**



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**We optimize for the
flow of the work**

**rather
than for the
output of the
individual**



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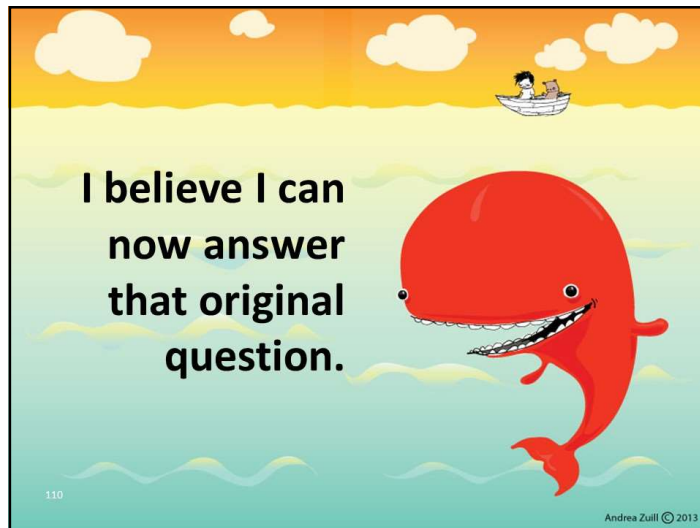
**We are not NOT trying to
Get the most work out of each person**



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**We are seeking to
get the best of each
of us into everything
we do.**

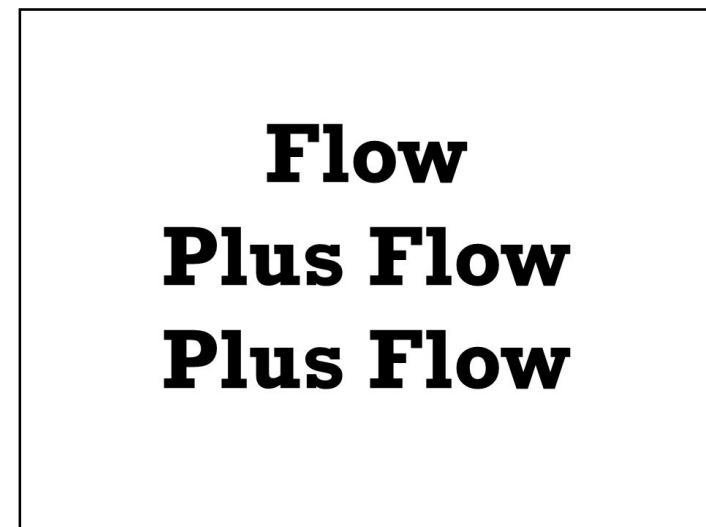
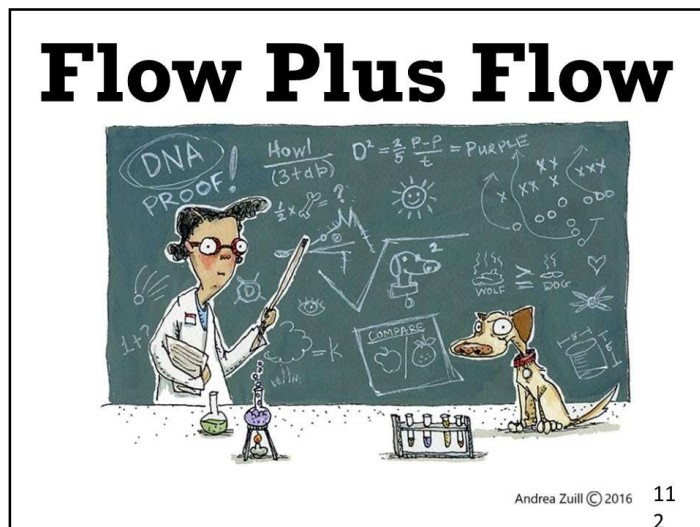




Effectiveness

How can we be **EFFECTIVE** with 5 people at one computer?

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1



Flow++

We Enable **Individual FLOW**
by giving each person the safety and
space to think in their own way.



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We Enable **Team FLOW**
by Working Well Together



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We Enable **Lean FLOW**
by Eliminating Queues



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