



# Paired Collaboration

Creating More Effective Teams through Paired  
Collaboration



# Thank You!

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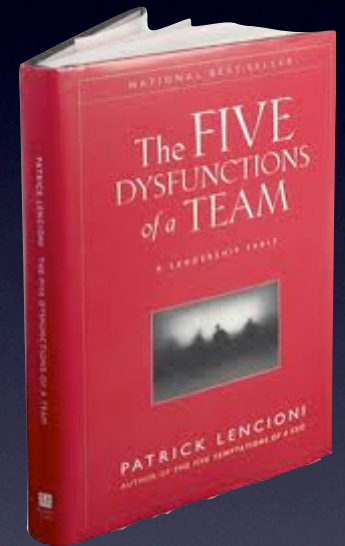


# Ineffective Teams

Your experience?



# Dysfunctional Teams





# 5 Dysfunctions of a Team

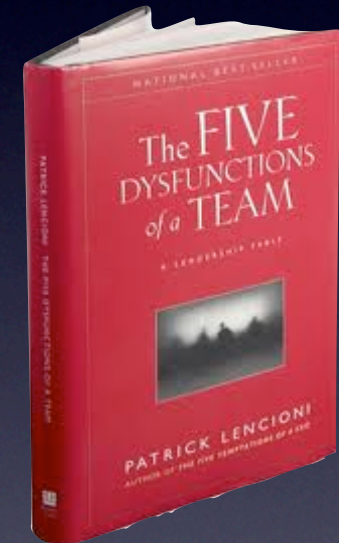
**Absence of trust** - unwilling to be vulnerable within the group

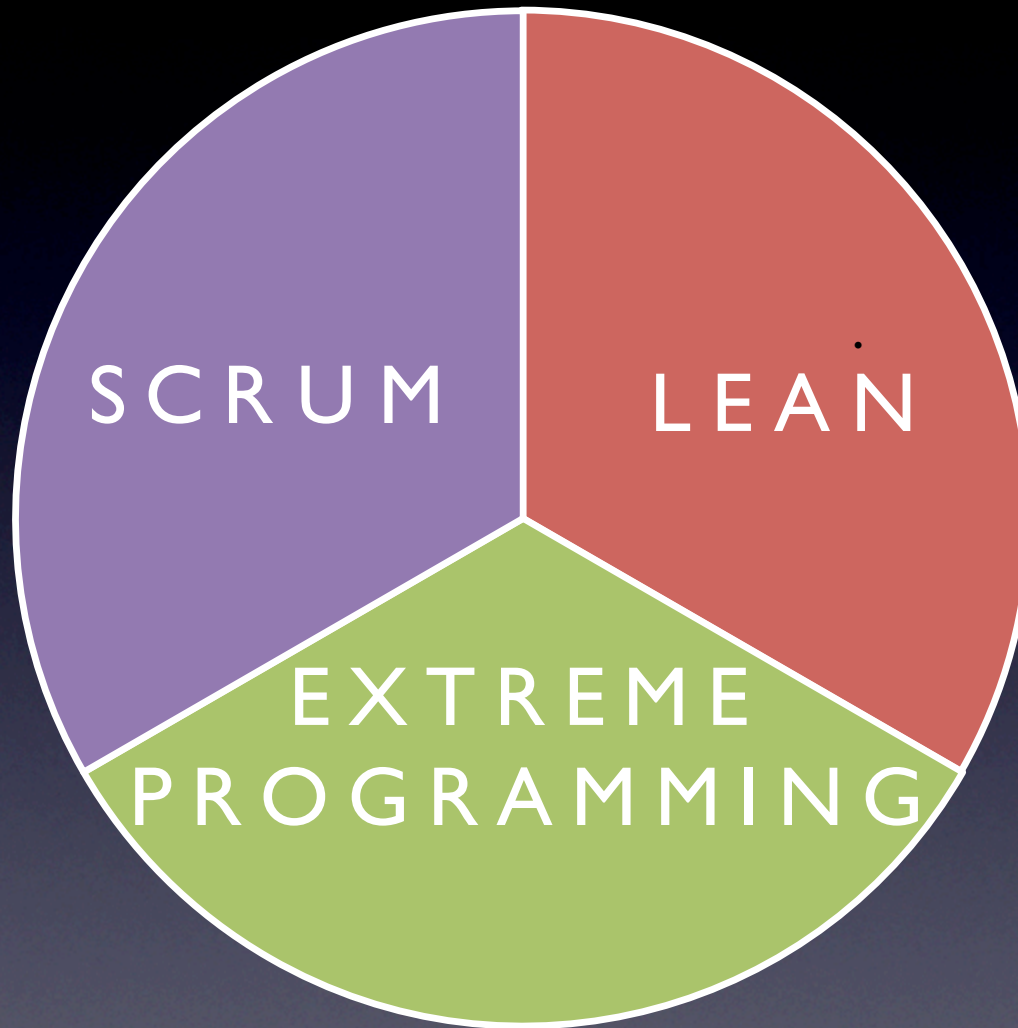
**Fear of conflict** - seeking artificial harmony over constructive passionate debate

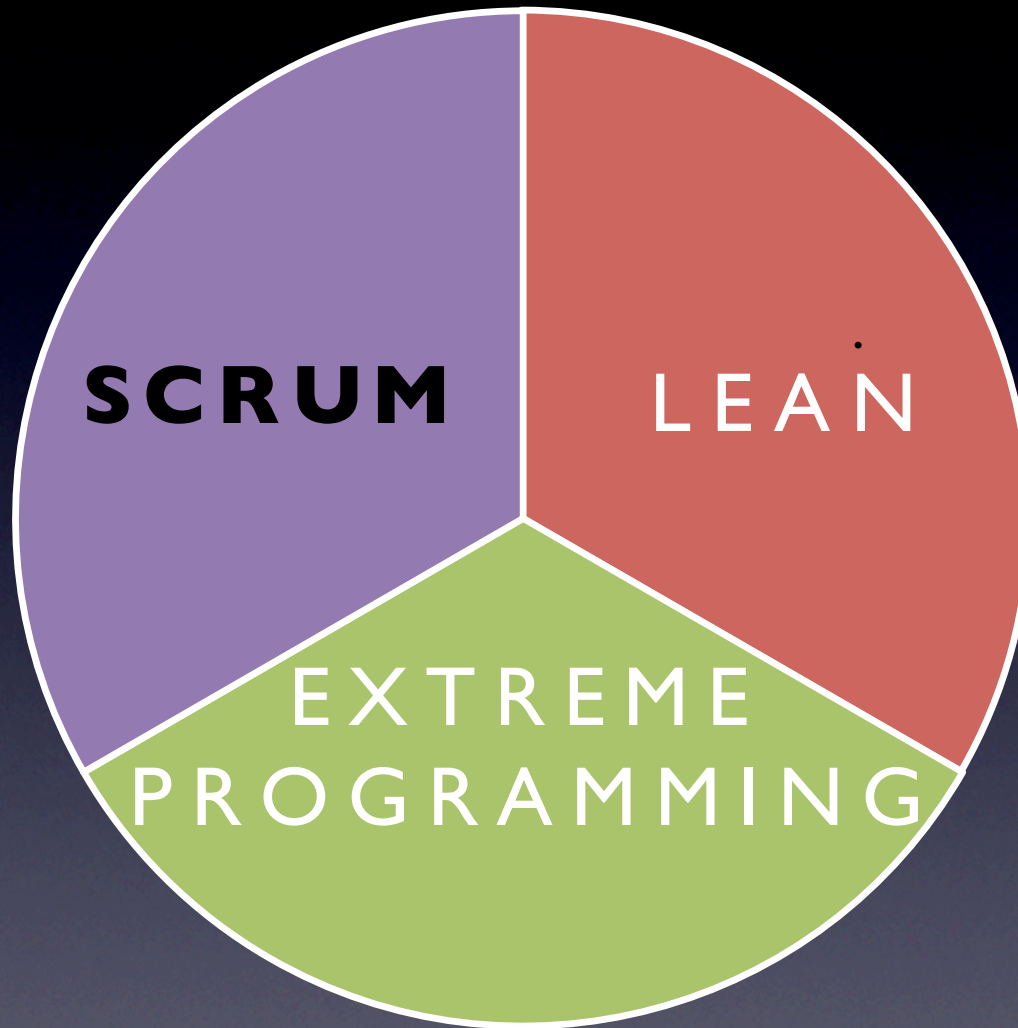
**Lack of commitment** - feigning buy-in for group decisions creates ambiguity throughout the organization

**Avoidance of accountability** - ducking the responsibility to call peers on counterproductive behavior sets low standards

**Inattention to results** - focusing on personal success, status and ego before team success





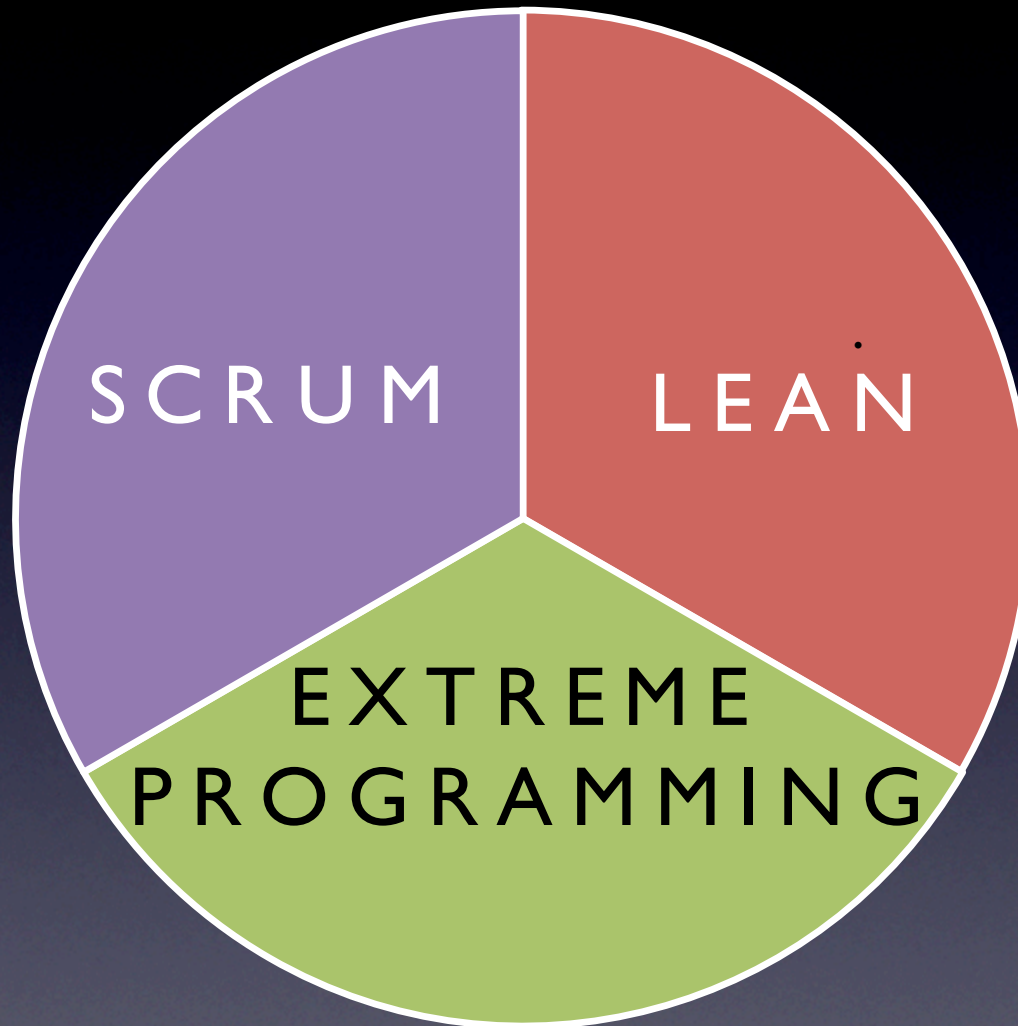




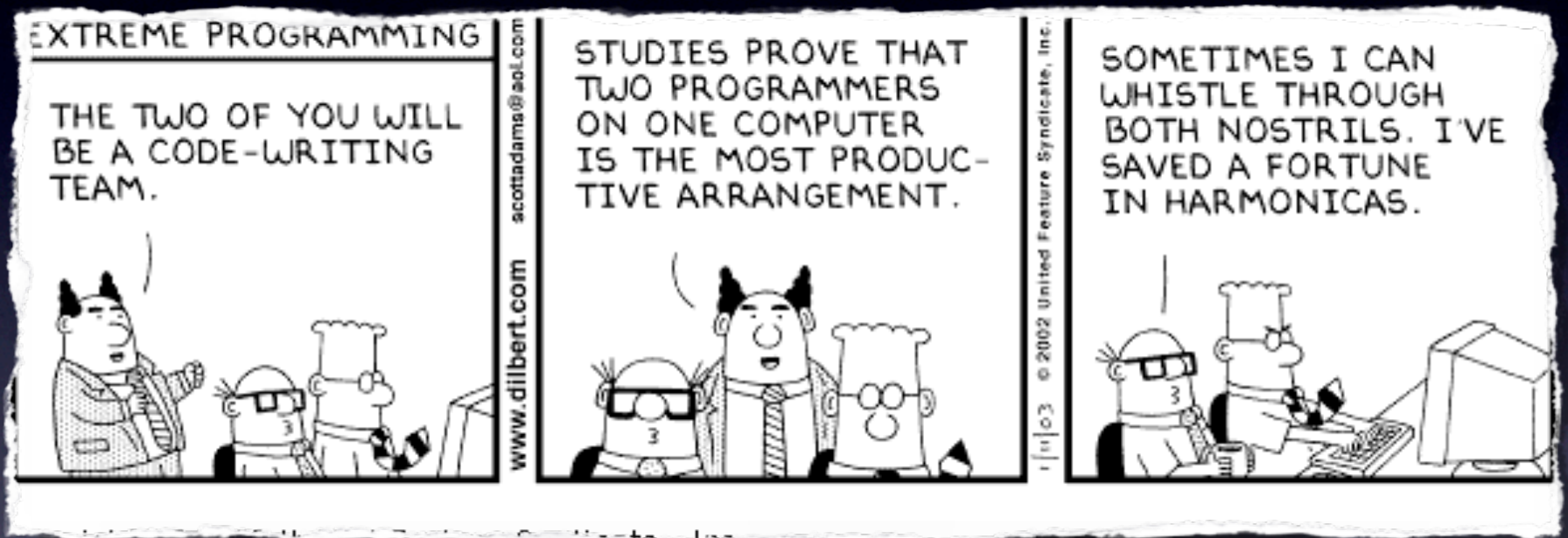
# How Scrum handles Dysfunction

- Small, consistent teams that enable the building of trust.
- Regular sprint planning towards a common sprint goal & commitment
- Daily Stand-ups to hold team members and team accountable
- Reviews and Demos to focus on the results and build trust with Customer
- Retrospectives to foster healthy debate and establish more trust within the team





# Pair Programming

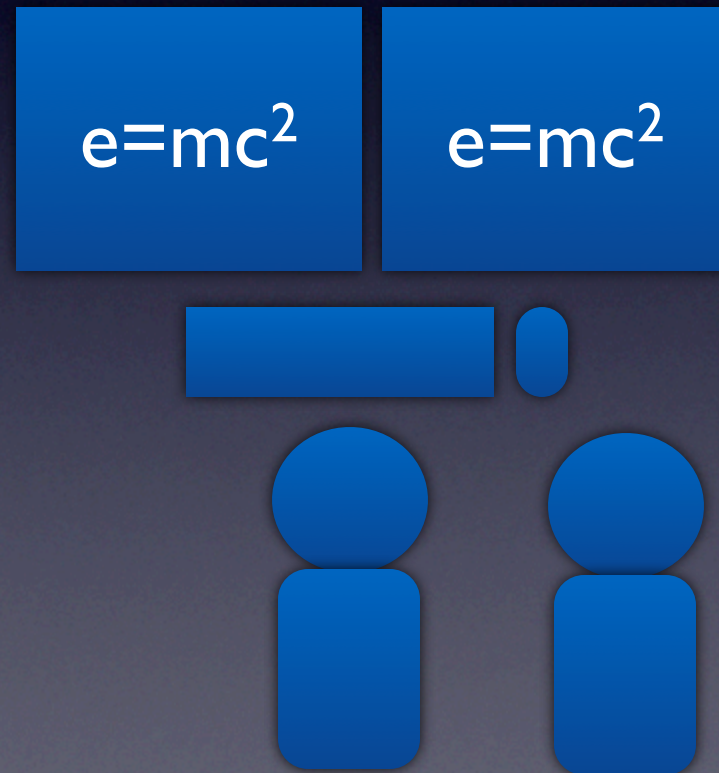


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# Pairing Setup

- 2 monitors (mirrored)
- 1 problem
- 1 keyboard
- 2 developers



# RESISTANCE

- Managers
  - $1+1=1$  versus  $1+1=2$
- Developers
  - Reluctance to change, Don't care
  - Loss of independence and strong ownership



# Results: Time

Singles

Pair - 15% Longer

- Pair takes 15% longer than 2 individuals working solo

Source: [The Costs and Benefits of Pair Programming](#), Alistair Cockburn & Laurie Williams

# Results: Defects



- 50% Less Defects

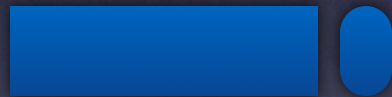
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# How it works

$$e=mc^2$$

$$e=mc^2$$



# How it works

## Driver

- L-Mode
- Myopic
- Task @ Hand

$e=mc^2$

$e=mc^2$

## Navigator

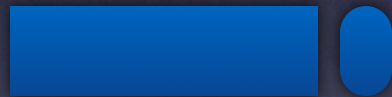
- R-Mode
- Hyperopic
- Larger Patterns & Contexts



# Advantages of Pairing

$$e=mc^2$$

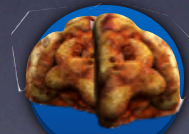
$$e=mc^2$$



# Both Halves of the Brain

$$e=mc^2$$

$$e=mc^2$$





# Focus

$$e=mc^2$$

$$e=mc^2$$



# Reduce Interruptions

$$e=mc^2$$

$$e=mc^2$$





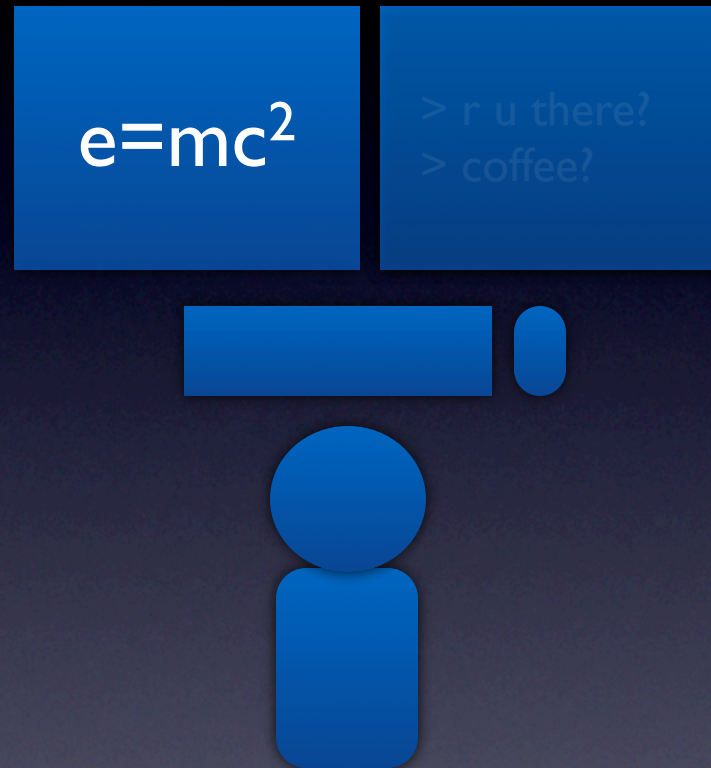
# Reduce Resource Constraints

$$e=mc^2$$

$$e=mc^2$$



# Multiple Monitors



- Reduces Task Switching by moving distractions out of focus
- Increases Productivity up to 50%



# Challenges

# Pair Rotation

- Never assign pairs, Pairs should be fluid
- When you become stuck or frustrated, switch Pairs for a fresh perspective
- Switch several times per day, regardless
- Rotate Driver & Navigator roles
- Take frequent breaks, use Pomodoro technique



# Pairing Techniques

# Ping Pong Pairing

```
assert x==y
```

```
x=2  
y=1+1
```





# Ping Pong Pairing

```
assert a==b
```

```
a=3  
b=4-1
```



# Ping Pong Pairing

```
assert a==b
```

```
a=3  
b=4-1
```





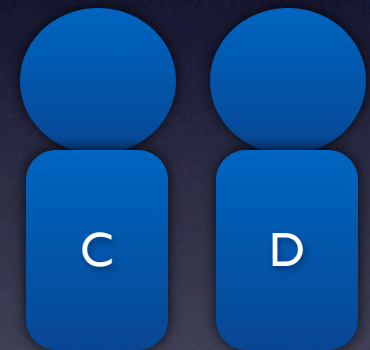
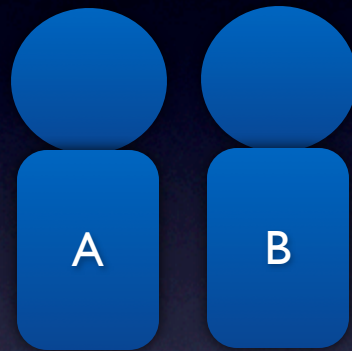
# Ping Pong Pairing

```
assert a==b
```

```
a=3  
b=4-1
```

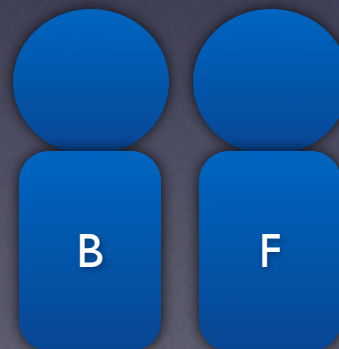
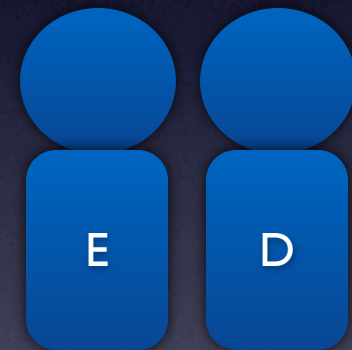
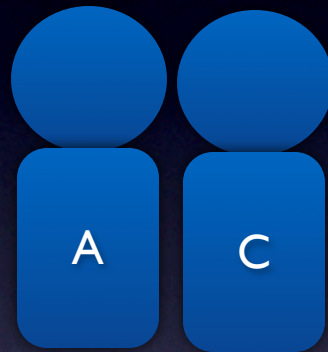


# Promiscuous Pairs

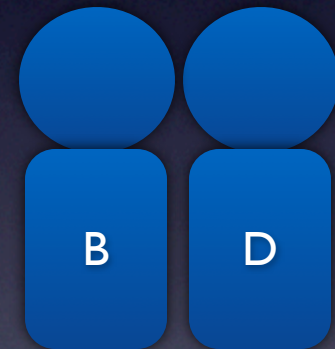




# Promiscuous Pairs



# Promiscuous Pairs



- Switch often
- Best Practices become viral





# Pair Stairs



# Pair Stairs





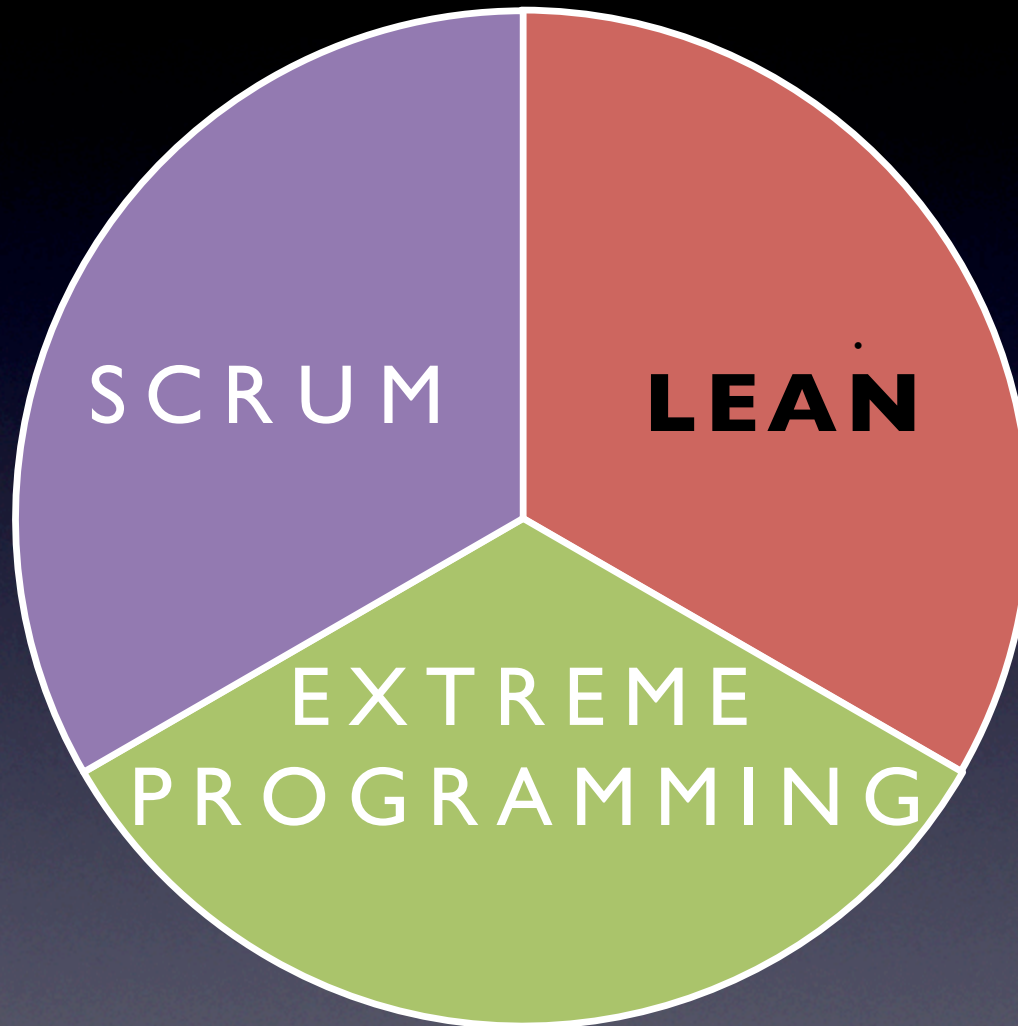
# Pair Stairs



# Cross-Functional Pairing

- Testers
- Business Analysts (BA)
- Works Cross-Discipline
  - Developer, Tester
  - Developer, BA
  - BA, Tester
  - ...





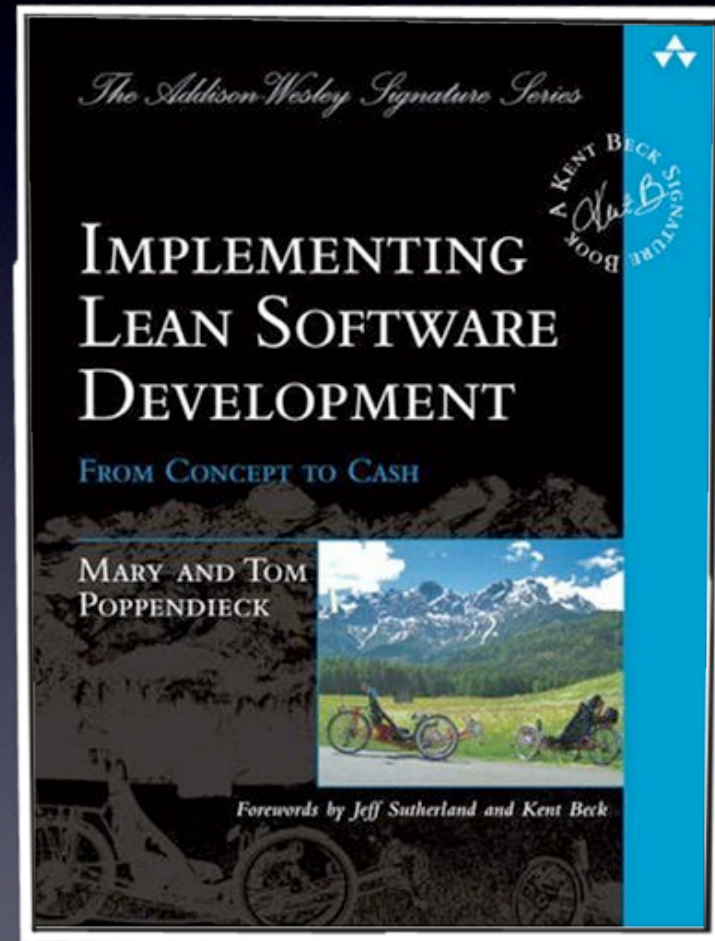
# Creating Waste without Paired Collaboration





# 7 Wastes of SW

- Partially Done Work
- Extra Features
- Relearning
- Handoffs
- Task Switching
- Delays
- Defects



# Ripple Effect of Defects

- Uncaught defects will force a **handoff** from tester to developer.
- If the developer is not available **delays** will occur.
- Once available, the **handoff** will force the developer to **task switch** away from current work back to the original feature.
- The developer may not complete the current work and create **partially done work**
- Once the defect is resolved another **handoff** occurs back to the tester potentially having the same potential **delay, task switch** and **partially done work**.



# Partially Done Work

- Pairs focus on highest priority stories
- Limits carry-over and incomplete features

# Extra Features

- Pair keeps individuals in check and on course to deliver necessary features
- Reduces Goldplating: Requires 2 people to commit to Extra Features



# Relearning

- Reinforces team best practices
- A focused resource is available to shorten time to relearn
- Forced repetition

# Handoffs

- Handoffs are eliminated by layering the process in the pairing session.
- Pairing with tester can limit handoffs in testing and defect resolution



# Task Switching

- Pair is interrupted less than solo developer
- Less interruptions during the pairing session (phone, email, instant messages, etc.)
- Focusing on the highest priority story

# Delays

- Delays are minimized
- Resource constraints reduced by spreading knowledge to 2 resources



# From Dysfunctional to Functional Teams

# Absence of trust

unwilling to be vulnerable within the group

## Benefits of Paired Collaboration:

- Reduce the group size from 9 to 2
- Build trust one pair at a time
- Expose pairs and individuals with “absence of trust”



# Fear of Conflict

seeking artificial harmony over constructive passionate debate

## Benefits of Paired Collaboration:

- Create situations that requires constructive debate
- Encourage debate into the team culture

# Lack of Commitment

feigning buy-in for group decisions creates ambiguity throughout the organization

## Benefits of Paired Collaboration:

- Create situations that require small commitments from which to build success
- Ambiguity is removed by a pair moving to action



# Avoidance of Accountability

ducking the responsibility to call peers on counterproductive behavior sets low standards

## Benefits of Paired Collaboration:

- Make counterproductive behavior fully transparent through observation
- Transparency greatly reduces the ducking of responsibility by encouraging positive behaviors of observances, conversation, feedback, and correction.

# Inattention to Results

focusing on personal success, status and ego  
before team success

## Benefits of Paired Collaboration:

- Replaces personal motivation and success with a shared understanding and pair commitment
- Pair commitment maintains focus on team commitment



# Your Questions, My Answers

