

A pair of modern office chairs with mesh backs and adjustable armrests are positioned facing each other. On the floor between them is a large, light-colored heart shape. The entire scene is rendered in a light, faded style.

Pair Programming

- A talk by Chris Roos & James Mead of Go Free Range Ltd
- Given at 2pm on 10th Feb, 2015 at FutureLearn's office



Disclaimer

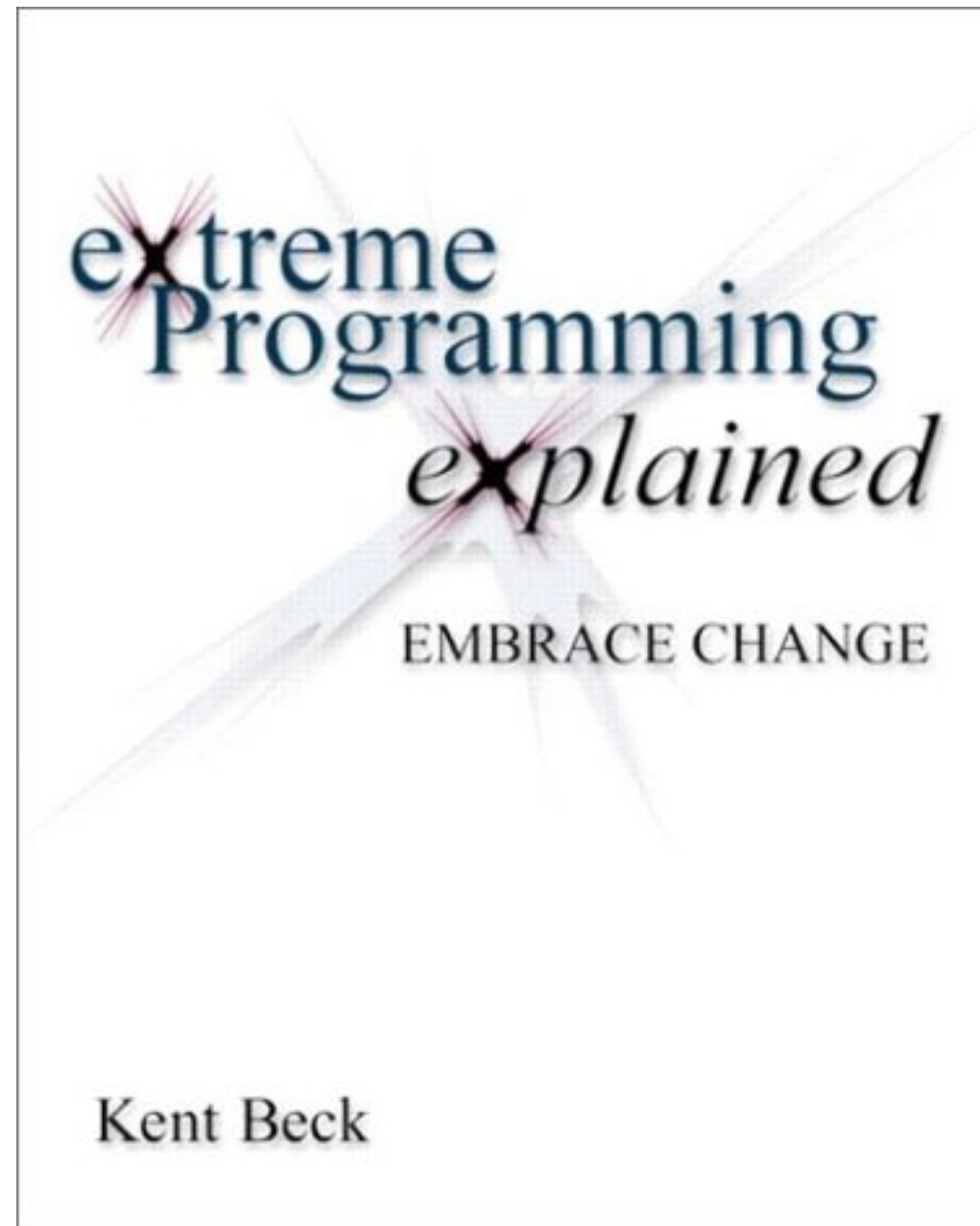
- Not a prescription
- Not a criticism
- Just our opinions

Pair Programming

- What is it?
- Why we think it's important
- Why we think it's a Good Thing™
- Why we sometimes find it hard to **start**
- Why we sometimes find it hard to **do**
- Q&A

What is Pair Programming?

XP: The "White Book"



All production code is written with
two people looking at one machine,
with one keyboard and one mouse.

– *XP Explained*

There are two roles in each pair.

– *XP Explained*

One partner, the one with the keyboard and the mouse, is thinking about the best way to implement this method *right here*.

— *XP Explained*

The other partner is thinking *more strategically*.

– *XP Explained*

Pairing is *dynamic*.

– *XP Explained*

A dialog between two people trying
to simultaneously program.

– *XP Explained*

A conversation at many levels
assisted by and focused on a
computer.

– *XP Explained*

A subtle skill - you can spend the
rest of your life getting good at.

— *XP Explained*

What Pair Programming is Not

One person programming while
another watches.

– *XP Explained*

A one-way tutoring session.

– *XP Explained*

Something only less experienced people do until they're up to speed.

Why we think pairing is important

XP Practices (1-6)

- The Planning Game
- Small Releases
- Metaphor
- Simple Design
- Testing
- Refactoring

XP Practices (7-12)

- Pair Programming
- Collective Ownership
- Continuous Integration
- 40-hour Week
- On-site Customer
- Coding Standards

XP Practices Supporting Pairing

- Coding Standards
- 40-hour Week
- Testing
- (Metaphor)
- Simple Design

- **Coding Standards**
- 40-hour Week
- Testing
- (Metaphor)
- Simple Design

- Coding Standards
- **40-hour Week**
- Testing
- (Metaphor)
- Simple Design

- Coding Standards
- 40-hour Week
- **Testing**
- (Metaphor)
- Simple Design

- Coding Standards
- 40-hour Week
- Testing
- **(Metaphor)**
- Simple Design

- Coding Standards
- 40-hour Week
- Testing
- (Metaphor)
- **Simple Design**

Besides, if people program solo they are more likely to **make mistakes**, more likely to **over-design**, and more likely **drop the other practices**, particularly under pressure.

— *XP Explained*

XP Practices Supported By Pairing

- Simple Design
- Testing
- Refactoring
- Collective Ownership
- Continuous Integration

- **Simple Design**
- Testing
- Refactoring
- Collective Ownership
- Continuous Integration

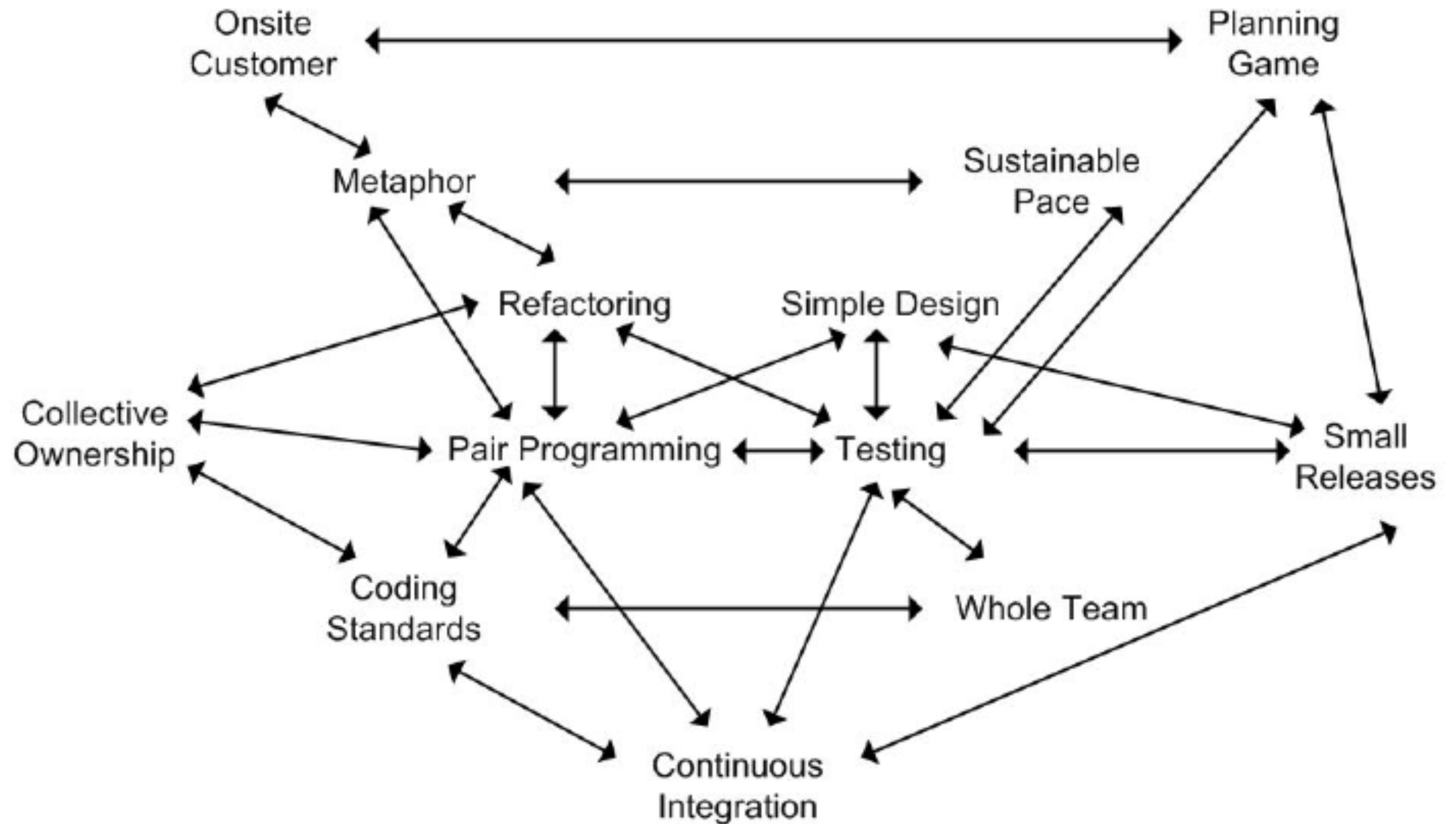
- Simple Design
- **Testing**
- Refactoring
- Collective Ownership
- Continuous Integration

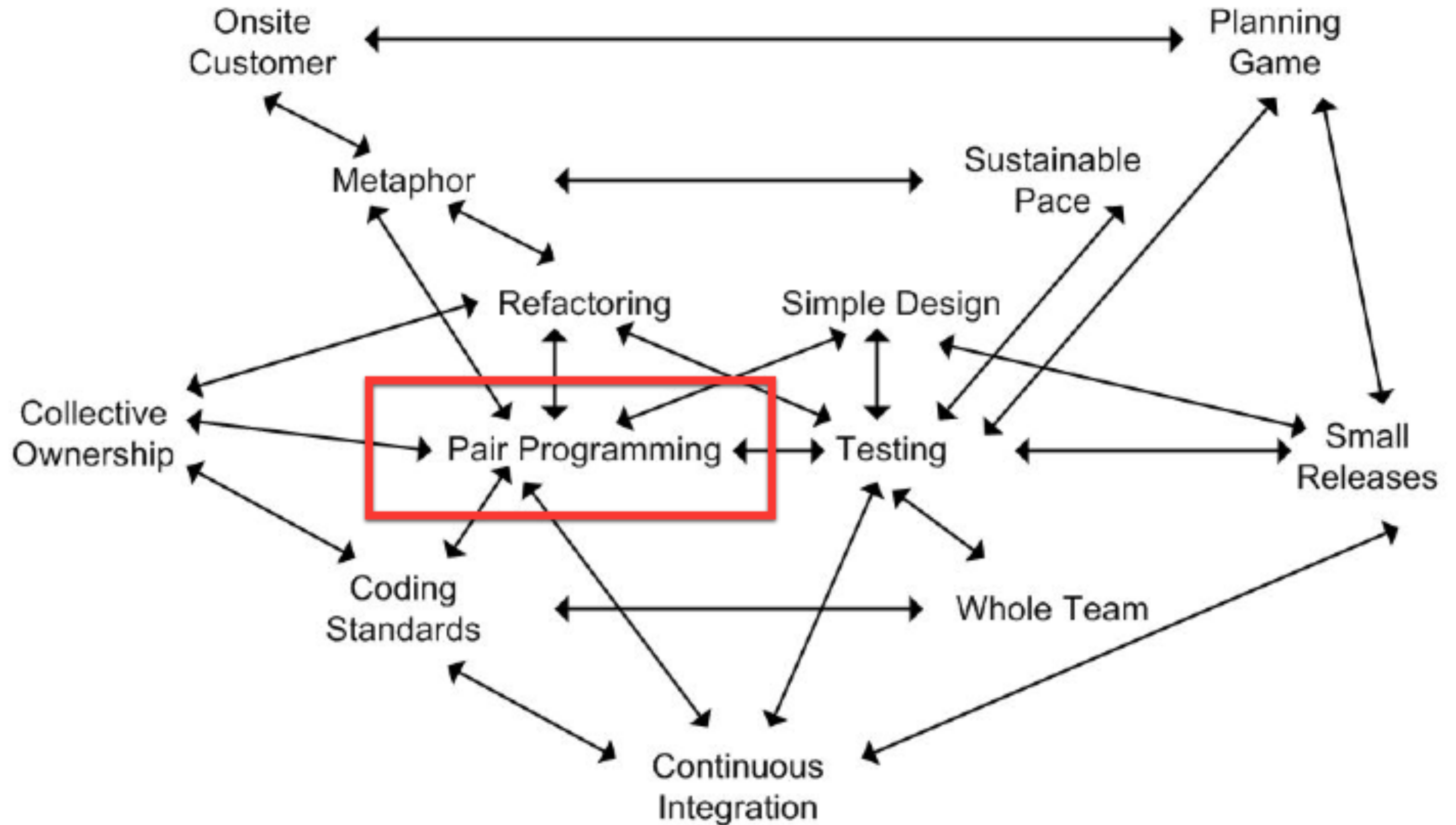
- Simple Design
- Testing
- **Refactoring**
- Collective Ownership
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- Simple Design
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- Simple Design
- Testing
- Refactoring
- Collective Ownership
- **Continuous Integration**

Mutually Supporting XP Practices





The individual pieces are simple. The richness comes from the interactions of the parts.

— *Kent Beck*

Any one practice doesn't stand well on its own. They require the other practices to keep them in balance.

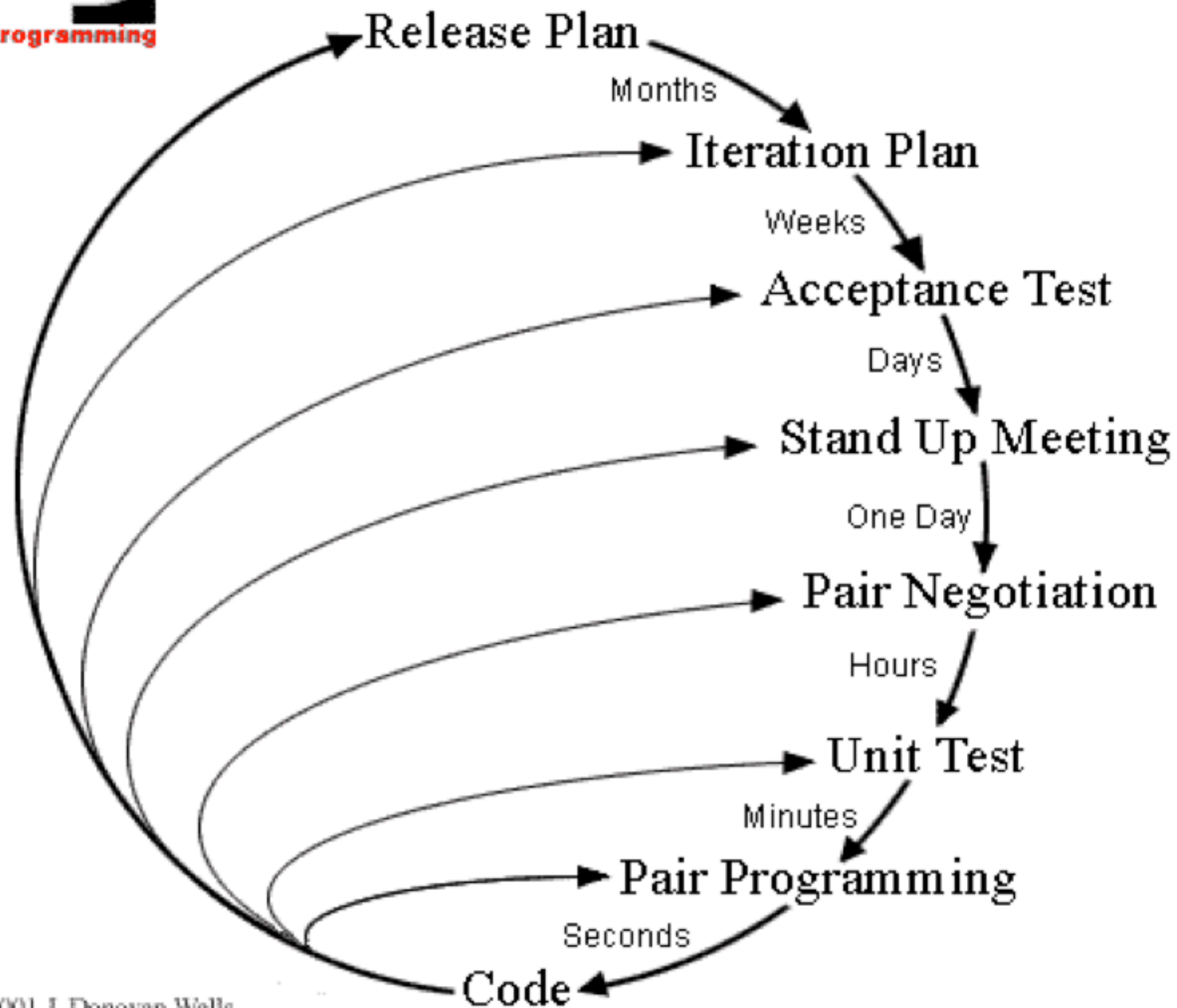
— *Kent Beck*

Feedback Mechanisms in XP



Planning/Feedback Loops

Zoom Out



Why we think pairing is a Good
Thing™

Collective Code Ownership

- Shared understanding
- Empowering
- Avoid silos

Quality

- Helps catch edge cases
- Encourages discipline
- Continuous code review

Efficiency

- Avoid going down rabbit holes
- Improved focus
- On the job training

Simplicity

- Identify duplicate code
- Avoid over-engineering

Why we sometimes find it hard to
start pairing

I feel intimidated to work with someone more experienced

- *Nobody* knows what they're doing
- Impostor Syndrome
 - "I'm just making stuff up as I go along"
 - "I'm going to be found out"
- Dunning-Kruger Effect
 - "There's so much that I don't know"

I don't want to disturb someone to ask them to pair

- Agree explicit rules
- Fixed pair rotation times
- Multiple pairs per story

I can't find another developer to pair with

- Core pairing hours
- More pairing, less meetings
- Better meetings
- Spike / Refactor

I found my last pairing session hard work

- Patience
- Try a new tactic
- Someone else
- Encouragement to pair

I feel like I ought to pick up another story as soon as I finish one

- Help someone else
- Spend time refactoring code

Why we sometimes find the process
of pairing difficult

I find it tiring to pair

- Take regular breaks

I find it difficult to articulate my thought processes

- Sketching on a whiteboard / piece of paper
- Pseudo code

I need time for personal admin

- Don't try to pair all day
- Core pairing hours?

I find it hard to pair on certain tasks

- Give your pair space to think/write

I find myself hogging/avoiding the keyboard

- Pairing ping-pong

I find myself distracted by notifications

- Switch off **all** distractions
- Dedicated pairing machines

I find it hard to work on other's machines

- Common development environment
- Dedicated pairing machines

I find it physically uncomfortable to pair

- Be prepared to move furniture (e.g. drawers)
- Make your pair feel comfortable
- Consider using two mirrored displays

Summary

- Just our opinions
- Pairing is hard but worthwhile
- Agree an approach as a team
- Make that approach more explicit

Q&A

References

- <http://www.extremeprogramming.org/>
- <http://codon.com/i-have-no-idea-what-im-doing>