

# hands-on agile development



**NEAL FORD** software architect / meme wrangler

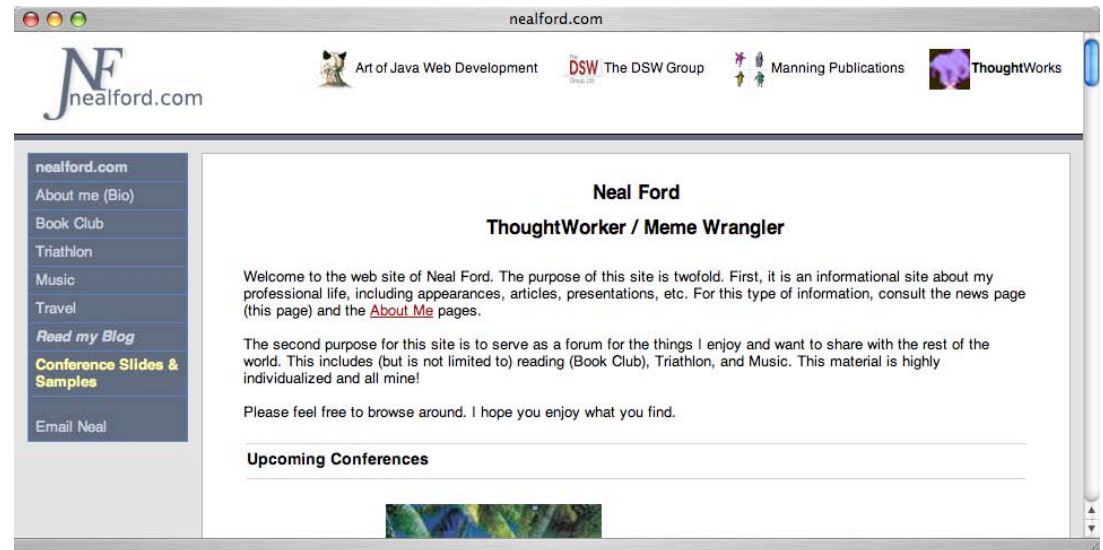
**ThoughtWorks**

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[www.nealford.com](http://www.nealford.com)  
[www.thoughtworks.com](http://www.thoughtworks.com)  
[memeagora.blogspot.com](http://memeagora.blogspot.com)

# housekeeping

ask questions anytime

download slides from  
nealford.com →



download samples from `github.com/nealford`

# what i cover:

agile development practices

the process

the problem

the solution

reflection

# agile (any flavor)

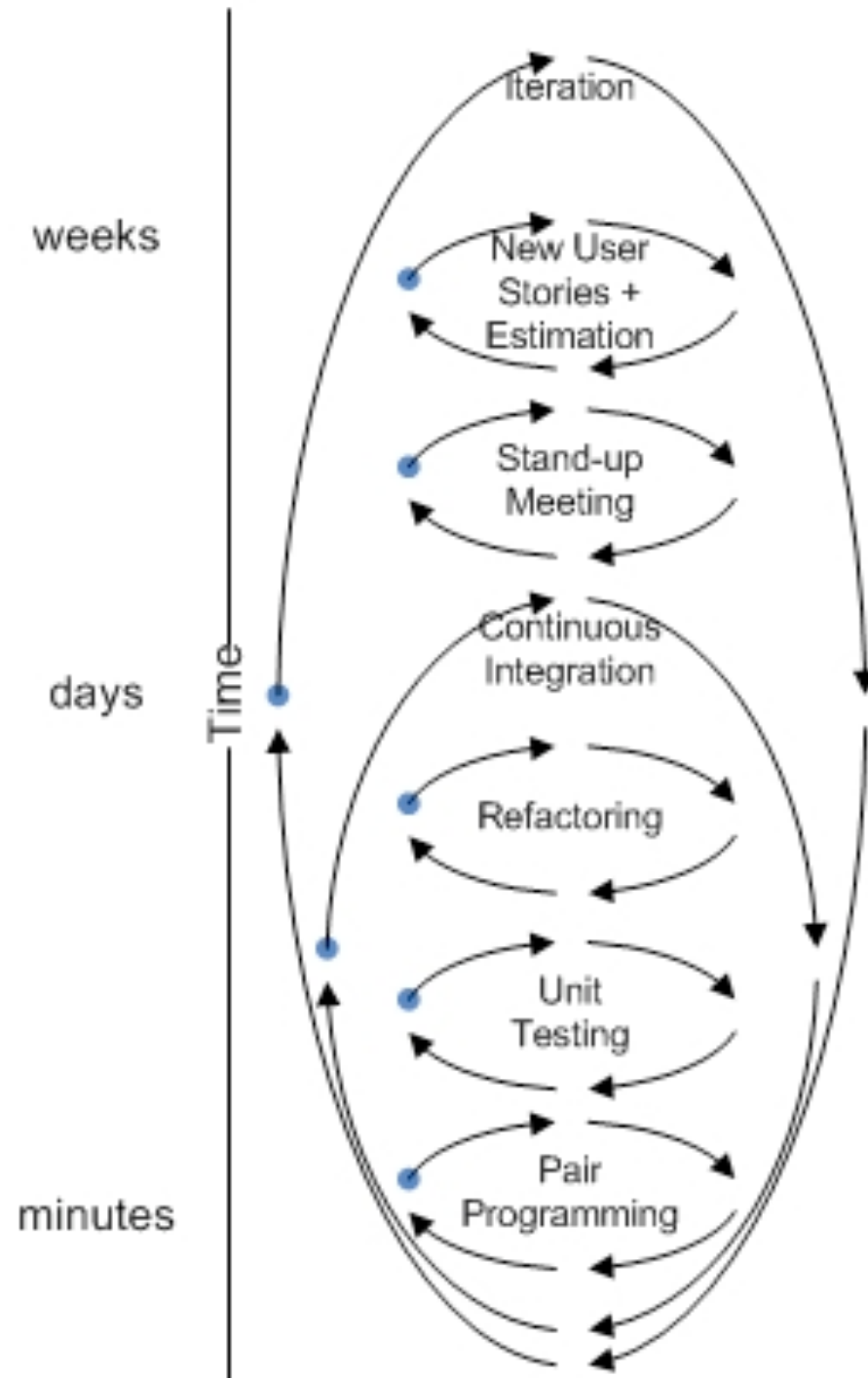
homogeneous set of activities repeated over & over

coding to business forces vertical slices

constant feedback opportunities

highly disciplined activity

# feedback loops



# planning

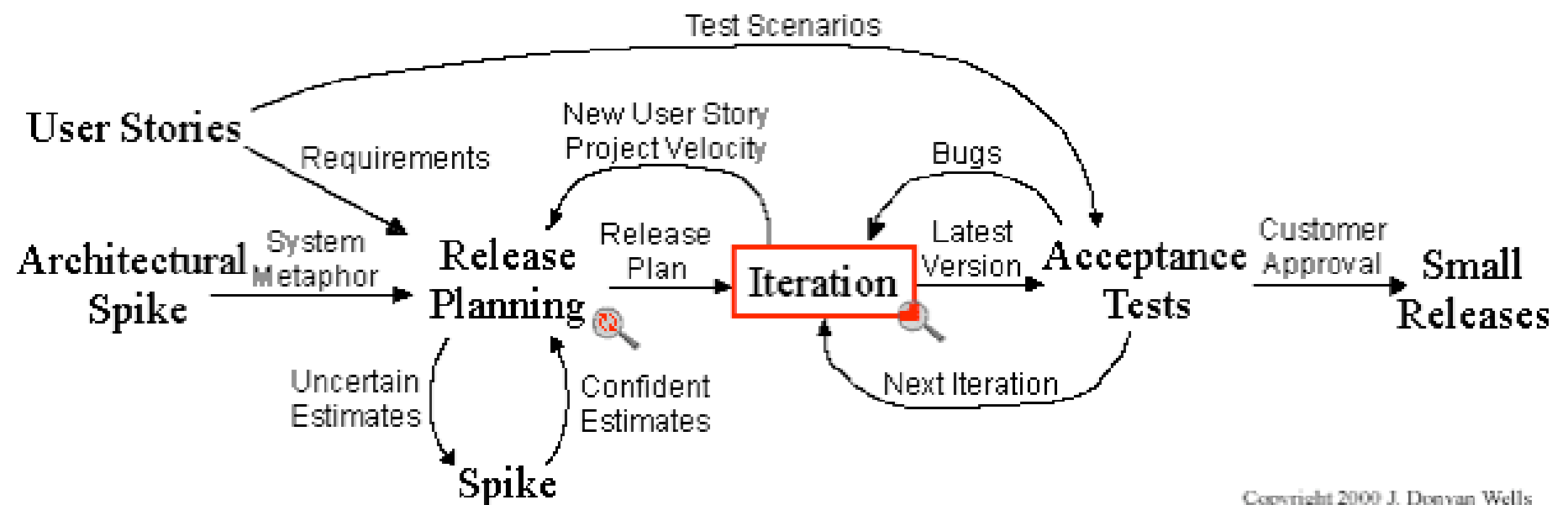
planning & estimation

none of the development practices

XP covers the entire spectrum

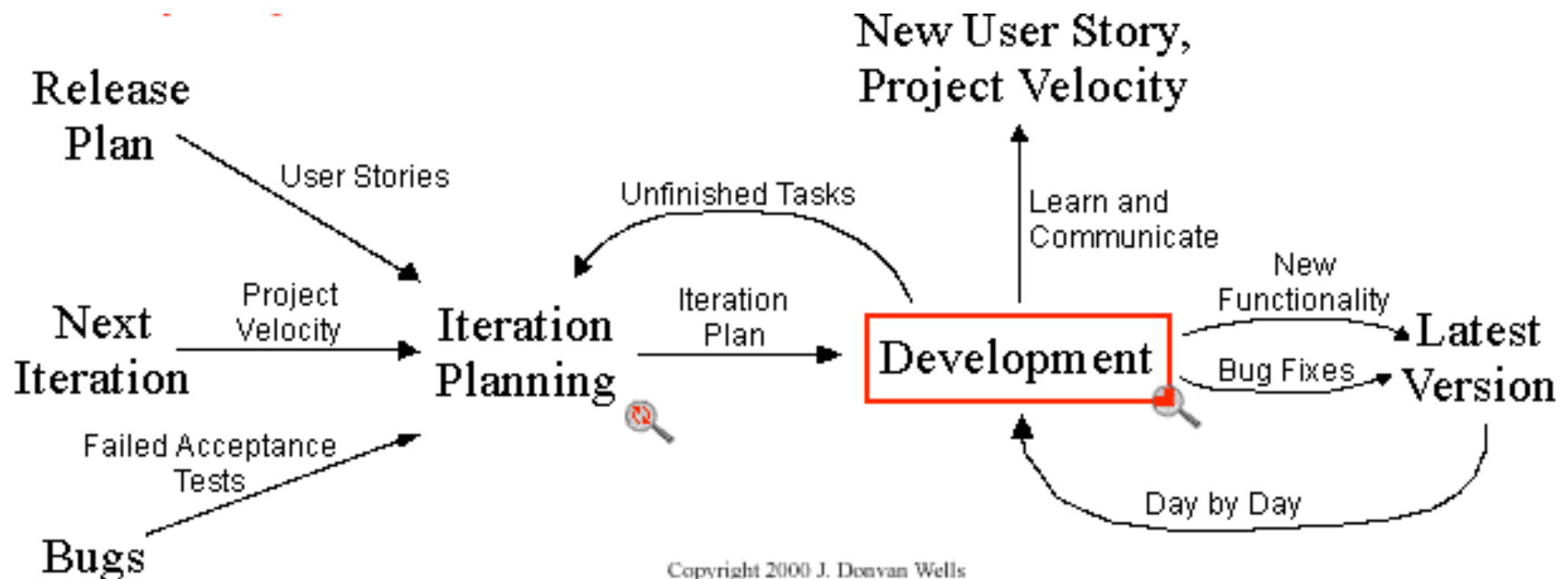
mix & match

scrum + XP development practices



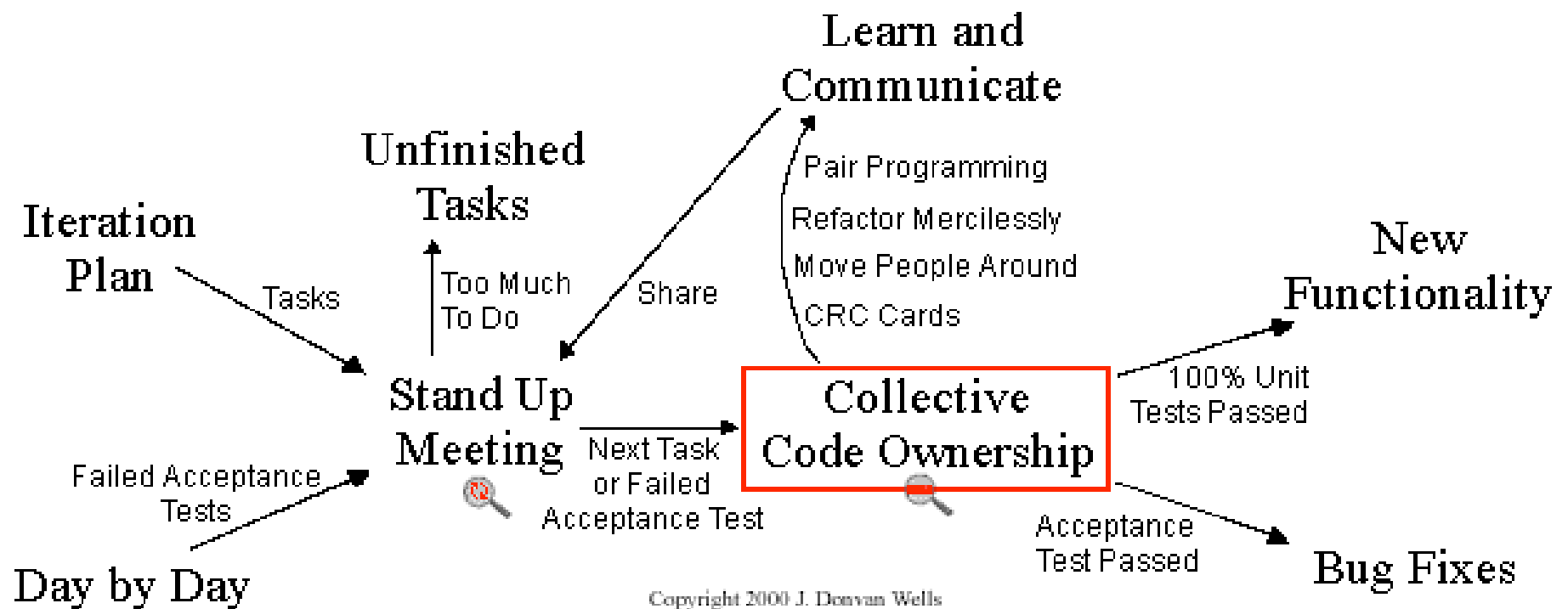
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from <http://extremeprogramming.org/>

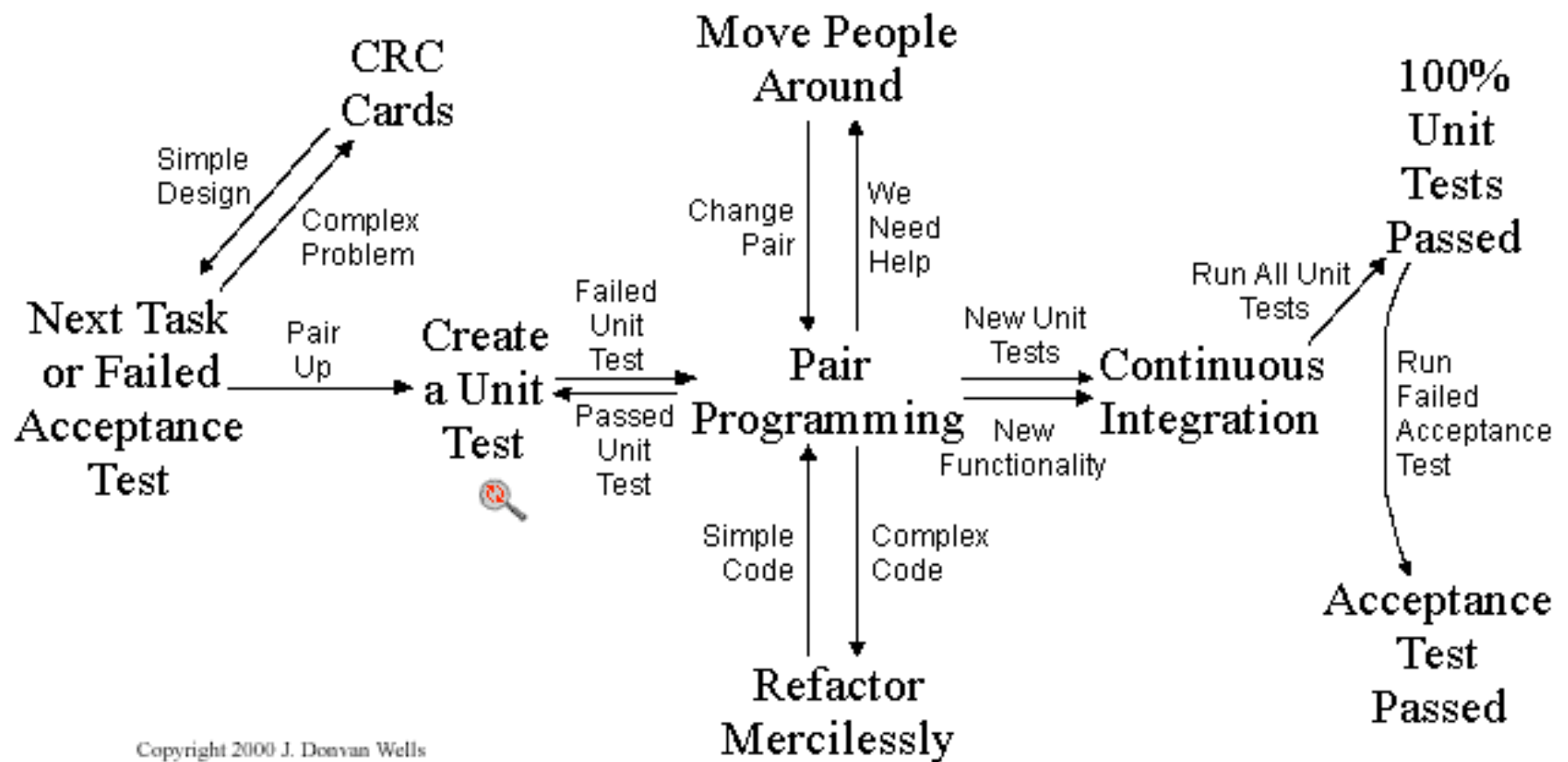


from <http://extremeprogramming.org/>





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# pair programming

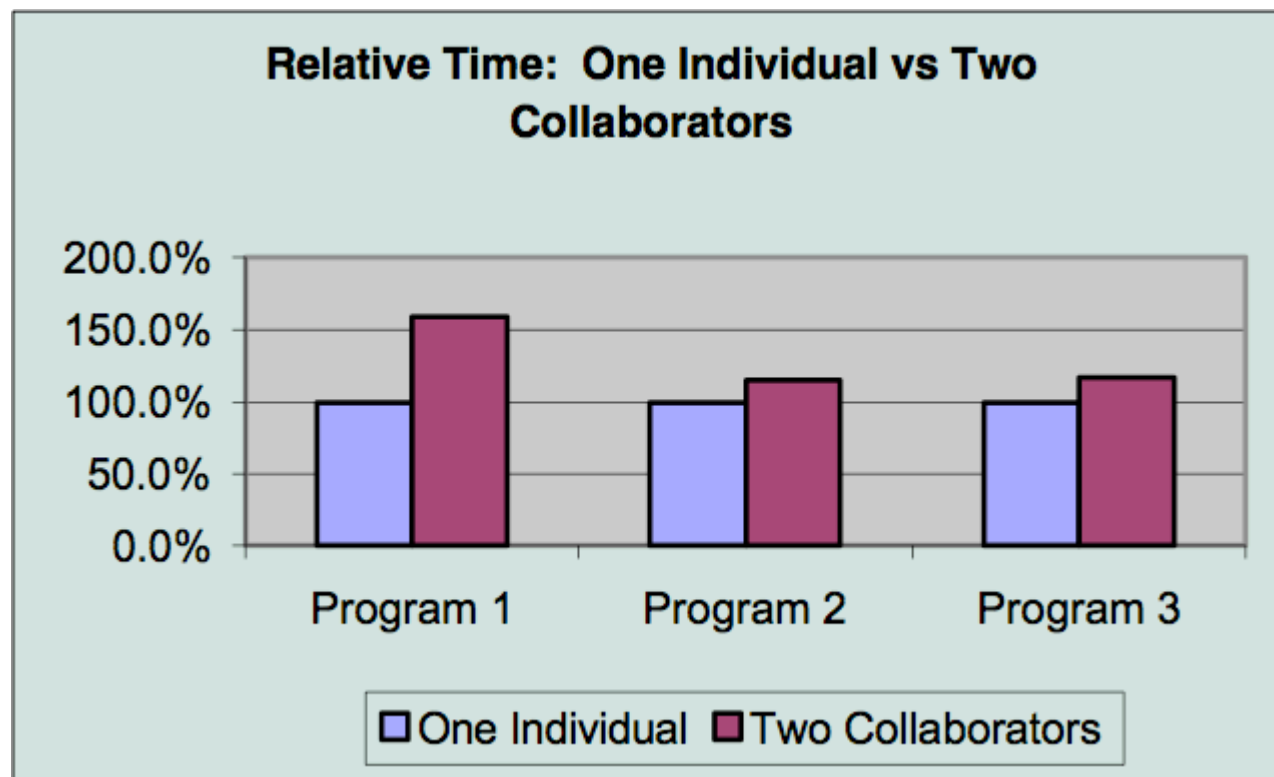
## driver

typing  
micro-concerns  
syntax  
formatting  
line-by-line  
getting the  
test to pass

## navigator

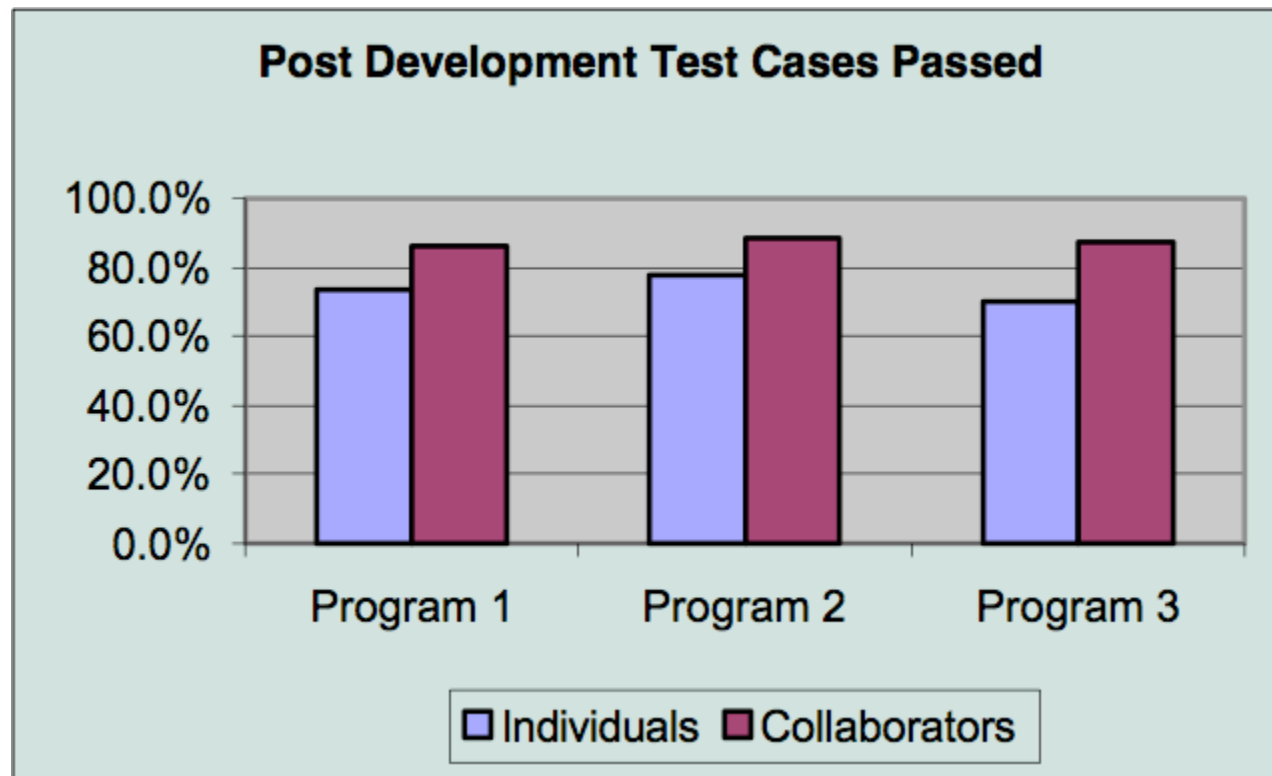
thinking  
macro-concerns  
right class?  
refactor?  
algorithm?  
using design  
patterns

# pair programming studies



after adjusting, pairs produced code 15% more slowly than individuals...

# pair programming studies



...with 15% fewer defects

# example from the study

used to find bugs:	defects
unit tests	15% fewer defects
qa department	15x (2250 hrs vs 150 hrs)
customer	60x (9000 hrs vs 150 hrs)

# ping pong pair programming



# pair programming

100 eyes  
010 brains  
001 mind



# what we're doing

how many laptops do we have?

create pairs

3 x 20-minute iterations

pick a language

retrospective

perfect number:

$\Sigma$  of the factors == number  
(not including the number)

$\Sigma$  of the factors - # == #

# iteration I

As a user, I want an application where I can either:

- enter a number and determine if it's perfect

- enter a range of numbers and get a print out of all perfect numbers in the range

User interface is unimportant; it can be minimal

# I-1 retrospective

What went well:

1.

2.

3.

4.

5.

6.

7.

# I-1 retrospective

What didn't go well:

1.

2.

3.

4.

5.

6.

7.

**move people around**

# iteration 2

As a user, I want an application that categorizes numbers as perfect, abundant, deficient, or prime

- enter a number and determine it's category

- enter a range of numbers and get a print out of the category of each number in range

User interface is unimportant; it can be minimal

# I-2 retrospective

What went well:

1.

2.

3.

4.

5.

6.

7.



# I-2 retrospective

What didn't go well:

1.

2.

3.

4.

5.

6.

7.

**move people around**

**prime prime**

**a prime number whose factors  
add up to a prime number**

# iteration 3

As a user, I want an application that categorizes numbers as perfect, abundant, deficient, or prime, and “prime prime”

enter a number and determine it's category

enter a range of numbers and get a print out of the category of each number in range

User interface is unimportant; it can be minimal

# overall retrospective

What went well:

1.

2.

3.

4.

5.

6.

7.

# overall retrospective

What didn't go well:

1.

2.

3.

4.

5.

6.

7.

# pair programming

higher quality code at a slightly slower pace

2 people in flow

high level of concentration

real-time code reviews

fun!

# agile development

doesn't matter what type of planning you do

understand why agility works

adapt effective techniques within your organization (without dogma)

not pair programming, “co-source development”

play nice



?'S

please fill out the session evaluations  
samples at `github.com/nealford`



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