

Pair Programming

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Peter Kofler

- Ph.D. (Appl. Math.)
- Professional Software Developer for 14 years
- “fanatic about code quality”



Pair Programming

A man with dark hair is sitting at a desk, focused on his laptop. A black and white cat is perched on his left shoulder, looking towards the camera. The scene is dimly lit, with the primary light source being the laptop screen. Two speech bubbles are overlaid on the image, one from the cat and one from the man.

You forgot a
semicolon.

shizzle, my kizzle,
I'm coding **RUBY!**

Pair Programming

- **Two** programmers
- work **together**
- on the **same** thing
- at **one** workstation.

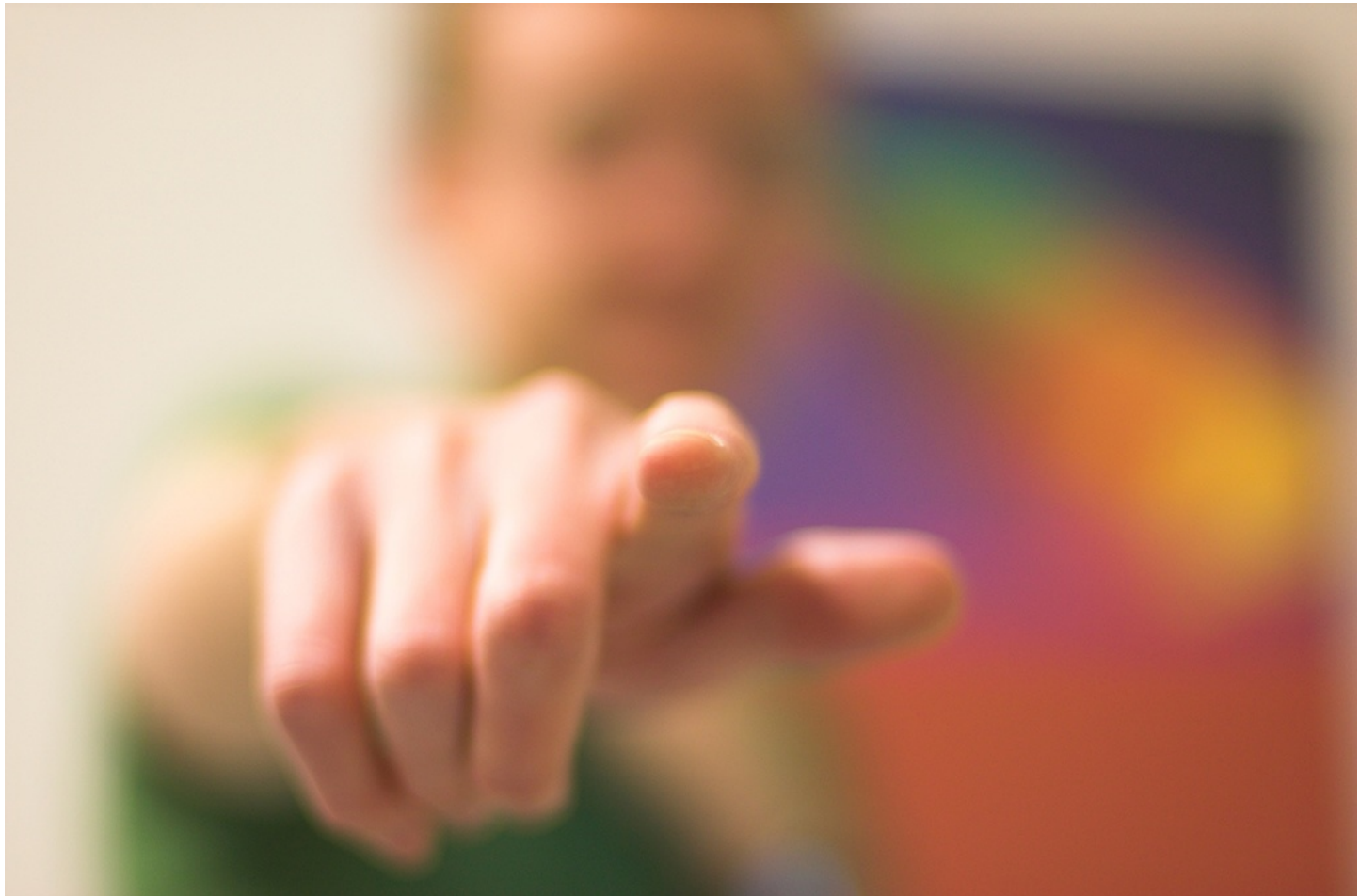
Pair programming is a **dialogue** between two people simultaneously programming (and analysing and designing and testing)

Enterprise CTO
not impressed by
pair programming.

“We often have hundreds
of developers working
on the same thing.”

(Hacker News Onion)

What are the benefits?



Benefits

- most immediate feedback
- maintained self-discipline
 - we keep each other honest
- improved code quality, less defects
- knowledge sharing
 - higher team bus number
 - mentoring junior team members.

“One disadvantage of
pair programming: you
have to go the toilet in
pairs too :-)”

(Zsolt Fabók)

Pairing Roles



Driver

- Writes code
- Takes the decisions
- Consults with the Navigator
- Focuses on short term actions
- Verbalizes all the performed actions
- Less-informed pair member is driving

Navigator

- Looks ahead for strategy
- Rechecks facts of the Driver (review)
- Remembers facts to the driver
- Asks meaningful questions
- Verbalizes agreement or disagreement
- Supports driver's decisions
- Does not cross the Driver's comfort zone

Students ...

★ must not listen to a music player in class.

★ must remember our teacher's name

★ must not play games in class.

★ should try to raise our hands in class.

★ should always sit in the front of the class.

mary

The Rules

You Pair For...

- Writing Production Code (XP Rule)
- Any development on the mainline of delivery (writing code, writing tests, build engineering, documentation)
- Works well for web applications

Pairing is Useful For...

- Tasks that need focused energy, brainstorming, problem solving, continuous design, mentoring and motivation.
- Pair by default and work solo by exception. (Novice Rule)

When Not to Pair

- Non-mainline tasks like spiking (prototyping), research, admin.
- Tasks which call for quiet, steady focus.
- Don't insist on pairing for every task.

How Long

- 70% of time, not more than 5 or 6 hours
 - Breaks!
- Shift partners often
 - every hour to every couple of hours
- Pair Marriage is bad
- Need quiet work time.
 - When interrupted, the negative impact is doubled.

Workstation

- Partners sit comfortably side-by-side.
- Level 0: Basic Pairing
- Level 1: Good Pairing - two keyboards
- Level 2: Great Pairing - mirrored screen
- Level 3: Awesome Pairing - eye contact
- Level 4: “Pair”-adise - extra laptop

Mob Programming

- All the brilliant people
- working at the **same** time,
- in the **same** space,
- at the **same** computer,
- on the **same** thing.



Illustration © 2012 - Andrea Zuill

<http://mobprogramming.org/>



Human Aspects

Breaking the ice

- Difficult to start pairing
- The first sessions are awkward
- Pairs open themselves one to the other
- Afraid of criticism

Behave Well

- Personal hygiene is important.
 - Take a shower (1st Rule of Pairing)
 - Use chewing gum
- Be polite!
- Have patience!
- Be honest!

“In pair programming
wait 15 seconds before
you point out mistakes.
Give your pair a chance
to find it first.”

(J. B. Rainsberger)

Communicate Freely

- Focus on the code
- Ask questions
- Express things (even to a newbie)
- Talk about the code

Anti Patterns

- Do not focus on typing/coding
- Do not hug the keyboard
- Do not dominate your pair
- Do not zone out (mobile phone etc.)



Not for everyone

- Do I want to sit next to this person every day?
- In doubt raise your voice (don't risk the project)

“Don’t be afraid of pair-programming - you’re not as good as you think, but you’re not as bad as you fear.”

(Ron Jeffries)



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