Pair Programming

You will never work alone again!

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What is Pair Programming ?

Video of a Sniper team working together

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What did we see ?

- ☑ Two guys working on the same task
- ☑ Both have the same target
- ☑ Both have different expertise
- ☑ One executes the task
- ☑ The other watches for external factors, evaluates the situation, corrects him and validates success after execution
- ☑ Two guys working as a team

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What is Pair Programming ?

src: ThoughtWorks India

src: ThoughtWorks India

src: ThoughtWorks India

src: ThoughtWorks India

Driver
Navigator
Pairing Station
src: ThoughtWorks India

Next line of code, syntax, API, class under dev
Driver
Navigator
Pairing Station
src: ThoughtWorks India

Next line of code,
syntax, API,
class under dev
are we in the right direction?,
requirements, alternatives,
next test case,
impact
Driver
Navigator
Pairing
Station
src: ThoughtWorks India

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Isn't it a waste ?

- ☑ Two developers will do the work of one
- ☑ Junior guys will slow down seniors
- ☑ Less work will get done
- ☑ My cost will double
- ☑ Why would I put two people on a job that just one can do?

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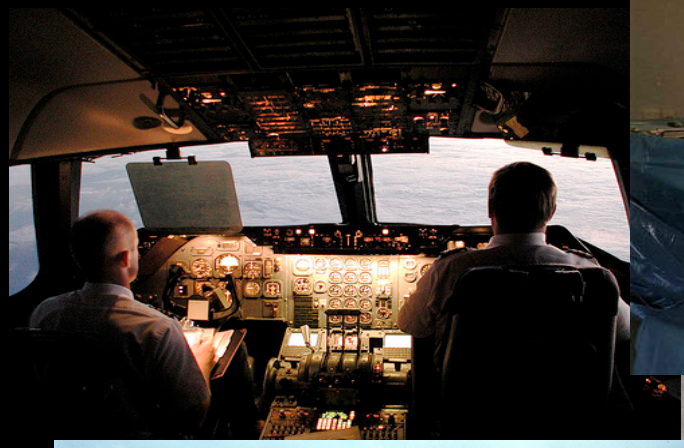
TICO TICO (Guitar Four-Hand Exchanging) Video

http://www.youtube.com/watch?v=CcsSPzr7ays

EUROSPORT
Timo
Rautiainen
Ford
Marcus
Gronholm
WRC



EUROSPORT
Timo
Rautiainen
Ford
Marcus
Gronholm
WRC

alpe
d'huez
L'île au soleil

How does it Help?

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Continuous Review

Less Defects
Defects caught early

Improvement in the Quality of the Design

Better Problem Solving

More Economical

“Pair-Pressure” ensures timely delivery

Rapid Hands-on Approach to Learning

Better Induction of new Team Members

Better Induction of new Team Members

Saved Effort on Intra-Team Documentation

Less Distraction leading to Higher Productivity

Improved Satisfaction

Sustainable Pace: Helps you slow down and think

Better Team Building and Communication

Project Management: Risk Mitigation Strategy

We are in the business of building software and this process requires **craft and skill**, rather than a series of manual steps.

Programming requires lot of thinking, creating abstractions, figuring out the logic and trying out things.

An **evolutionary, iterative and collaborative** process.

Its a lot more than just typing code.
(Using the keyboard or even worse, using the mouse)

A Normal Pair Programming Video

http://www.youtube.com/watch?v=q-QWdFa4awI

Consider the following...

An experiment on Pair Programming
at University of Utah

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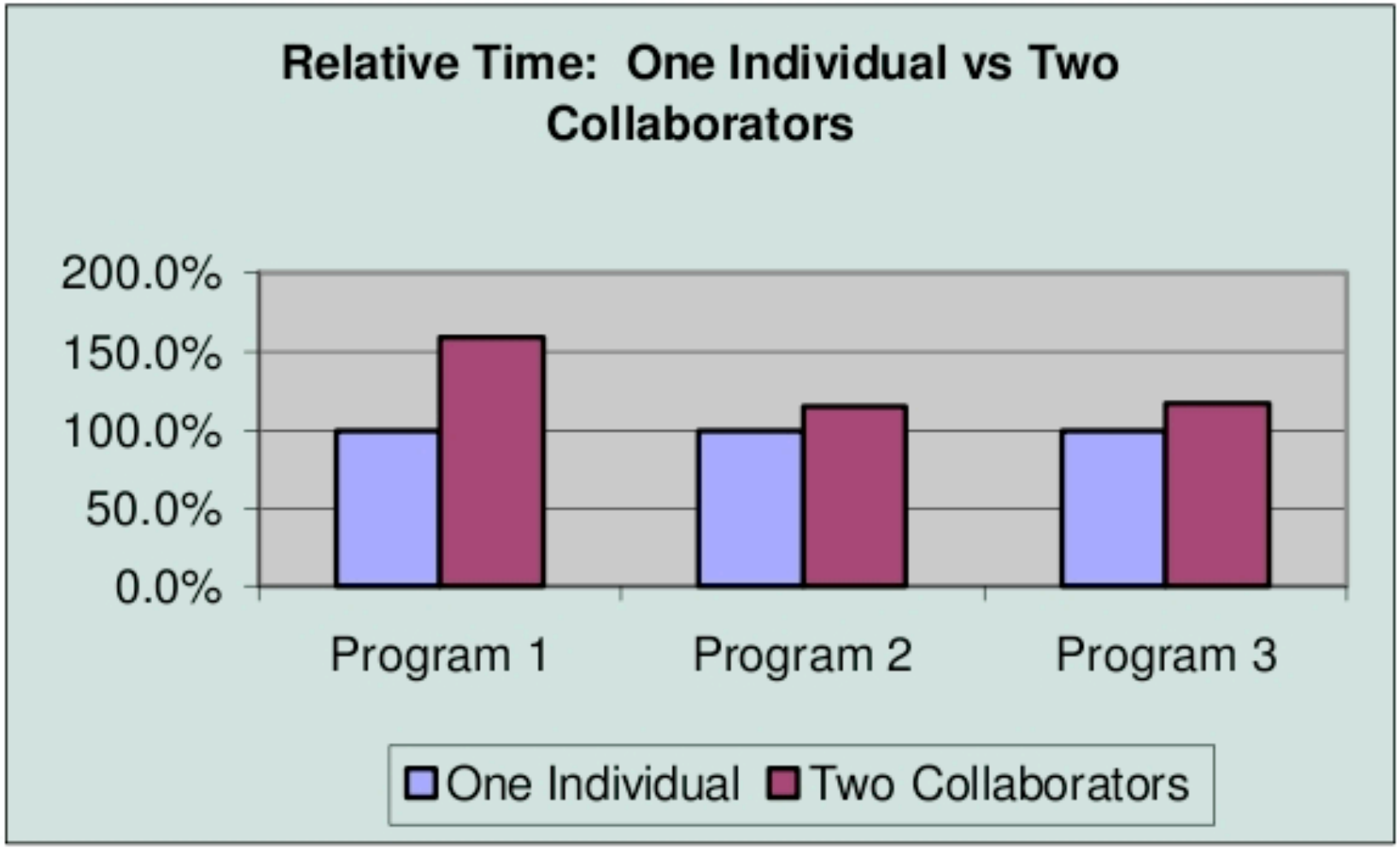
Cost and savings



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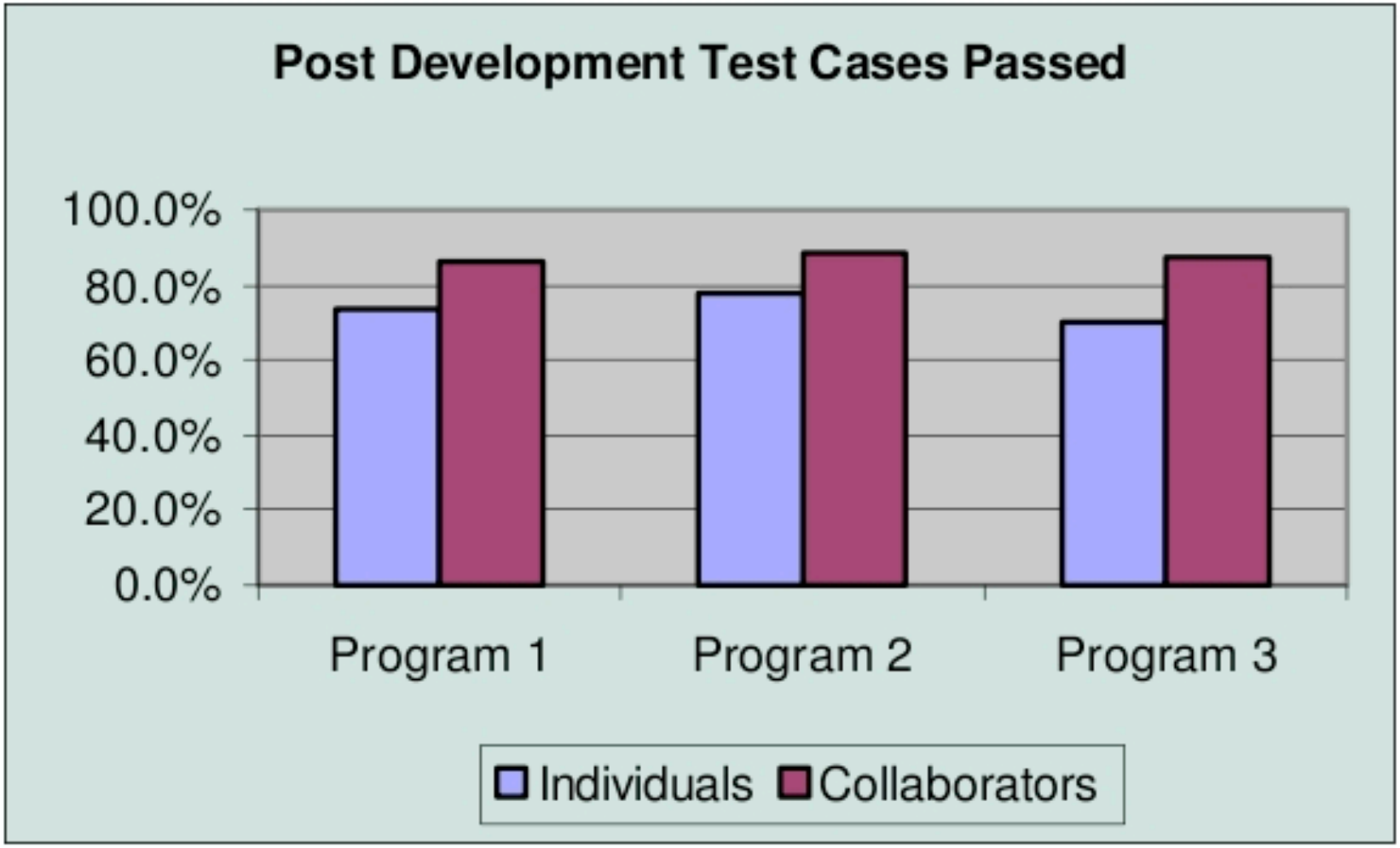
Cost and savings



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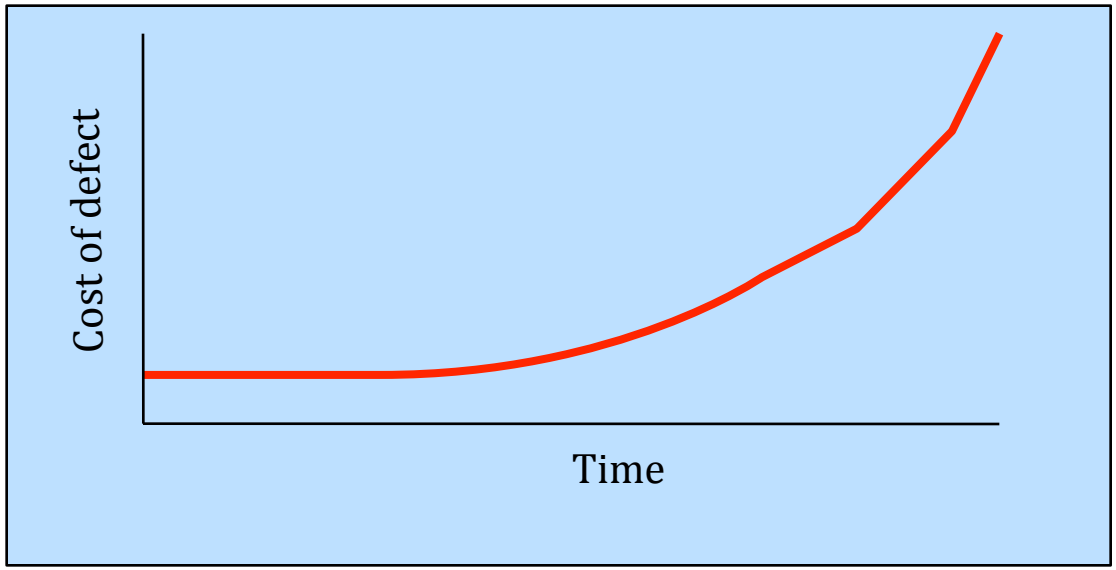
Cost of fixing defects



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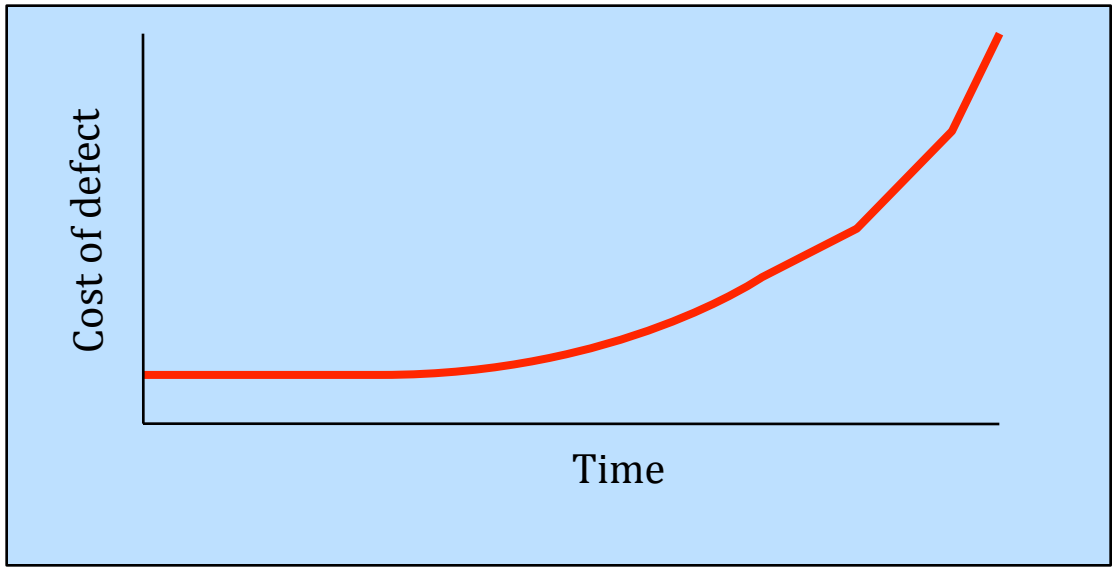
Cost of fixing defects



"IBM reported spending about $250 million repairing and reinstalling fixes to 30,000 customer-reported problems.

That is over $8,000 for each defect!"

- *"A Discipline for Software Engineering", 1995,* Humphrey, W.S.

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Incorporating pair-programming into a software development process will help yield software products of **better quality** in **less time** with **happier, more confident** programmers!

Points of resistance

Things to watch out for...

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Difficulty in convincing stakeholders to let two people work on one task

Everyone settles down into a “Comfort Zone”
Pairing would disrupt it

Strong Code Ownership

People Who Don't Care

Developers not involved in Estimation and Planning

Inconsistent Workstation Setup

Small Work Area (Cubicles)

Techniques of Pairing

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Ping-Pong Pairing

Keyboard n Mice Pairing

Selective Pairing

Cross functional Pairing

Distributed Pairing

Tips n Tricks

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Pairing Stations

Pair Rotation with Pair Hinging

Promiscuous Pair Programming

Pairing Round

Pair Stairs

Spikes

Pairing Smells

Things to Watch out for...

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Pair Programming Anti Patterns Video

http://www.youtube.com/watch?v=ReuFZYtGeCc

No Pair Rotation

Only one person driving
Distracted Pair

Selective Pairing closer to a Release

Manager decides the Pairs

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When its not necessary?

- ☑ Tasks which involve Mundane Work (may be)
- ☑ Trivial bug fixes like Typos
- ☑ One person in the Pair is Sick

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F.A.Q.s

- ☑ How do you do estimation? Its 2 people working on one task now.
- ☑ How do you do performance reviews for individuals?
- ☑ Can we keep it optional for some people on a team?

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References

- The Costs and Benefits of Pair Programming
  - Laurie Williams & Alistair Cockburn
- Strengthening the Case for Pair-Programming
  - Laurie Williams, Robert R. Kessler, Ward Cunningham & Ron Jeffries
- On the Economic Feasibility of Pair Programming
  - Hakan Erdogmus & Laurie Williams

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Thank You!

Questions?

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