

# Project Management Symposium

## Improving Code Quality, Velocity, and Team Cohesion with Pair Programming

Presenter: Demethria Ramseur



PROJECT MANAGEMENT  
CENTER FOR EXCELLENCE

A.J. CLARK SCHOOL OF ENGINEERING  
*Civil & Environmental Engineering Department*





# About the Presenter

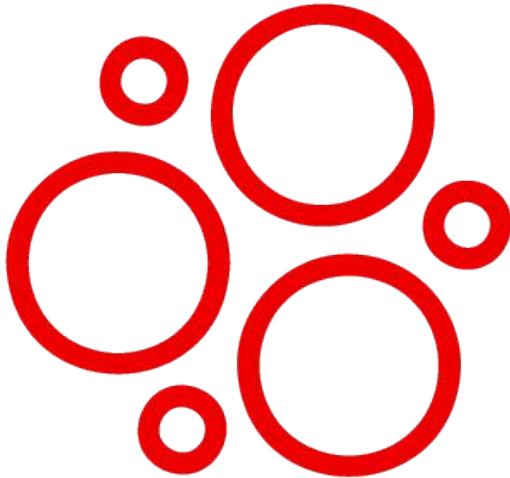


- Demethria Ramseur, Ph.D.
- Engineering manager at Red Hat
- 20+ years as a program/project management profession





# Learning Objectives



1. Pair Programming
2. Benefits
3. Misconceptions
4. Getting started



# Pair Programming Defined



- [1] <https://gase.io/blog/pair-programming/>
- [2] <https://www.agilealliance.org/glossary/xp/>



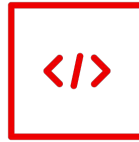


# Pair Programming Benefits

# Pair Programming Benefits



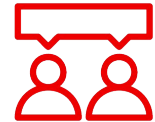
Increased Velocity



Improved Code  
Quality



Build Team  
Cohesion

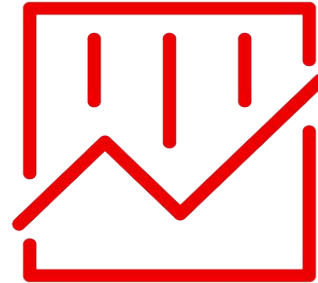


Mentoring  
Opportunity



# Benefits

**“saves time** by getting early feedback that can let you avoid unworkable solutions”  
-Eng2



**Increased Velocity**

**“We complete projects faster by pairing / working as a team, ....”** - Eng1”

Often **errors or mistakes are caught sooner** (even simple things like syntax errors, etc). - Eng4

**“Tighter feedback loop, resulting in fewer comments on PRs, and therefore faster development”** development”  
- Eng5

**“Improve code quality and faster feedback. It definitely has reduced errors and debugging time.”** - Eng3





# Benefits

“Hearing **several ideas** of technical solutions offer new things to learn and expand on existing experience.” Example: “With the project we tried some ideas first and learned new things, until we finalized the best plan.” - Eng1



Improved Code Quality

Pair programming has been successful in the instances we've used it. Having a second **set of eyes present** while working on an issue allows for **multiple perspectives** on how to solve a problem. - Eng4

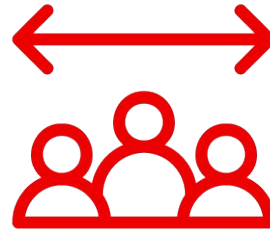
“Bazaar-style” development leads to a **marketplace of ideas & arguably better code/design** “.....” is an obvious example of both of these. - Eng5



A decorative graphic consisting of three overlapping arrows pointing right, colored red, yellow, and black.

# Benefits

“The remote working environment can make us feel isolated. Pairing on projects **brings the team closer** because we get a chance to interact with each other and work together in the same virtual office.” - Eng1



**Build Team  
Cohesion**

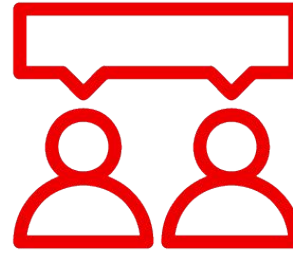
Key points: **Whole team works on an epic together**. **“Pairs or more have a dedicated set of meetings to work on specific tasks with one driver and one or more others to discuss with”**- Eng4

“Collaboration with teammates helps us to bring us closer and get quick feedback.” - Eng3



# Benefits

“**Pairing** with a more experienced developer **saves learning time and results in better quality of knowledge/experience** as compared to other learning methods.” - Eng1



**Mentoring  
Opportunity**

“helps keep ego in check by **getting help and acknowledging you can't know everything**” - Eng2

“**Enhanced** development knowledge and **problem solving skills** as well.” - Eng3



# Pair Programming Misconceptions



# Pair Programming Misconceptions



No Time To  
Help Others



Slows You  
Down



No feeling  
of  
Accomplishment

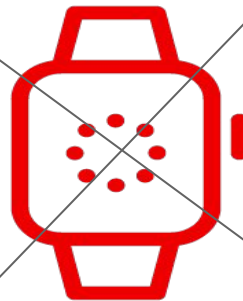


Not helpful due  
to mismatched  
skills

[4] <https://www.drovio.com/blog/7-myths-of-pair-programming/>

# Misconceptions

“People might be reluctant when **everyone has their own project to work on**, and there is little or no overlap.” - Eng1



“**Not wanting to tie up another engineer for a long stretch** of time to help me get my work done.” - Eng2



# Misconceptions

“Fear of Slower Progress: Some devs might believe that **working in pairs would slow down their progress or development speed**. They may think that discussing every step or decision will consume more time.” - Eng3



“A lot of the problems we work on require a lot of context to address and **giving someone enough context to be able to contribute can take a long time**, even more so if the other engineer isn't familiar with the code base....” - Eng2

# Misconceptions

“Feeling a sense of accomplishment from being able to solve problems myself” - Eng2



“...the biggest hesitancy for me came from a **desire to prove my own abilities and make my own achievements**...also on a personal note I was extremely **adverse to asking for assistance** on pretty much anything” - Eng6

# Misconceptions

Mismatched Skill Levels: Maybe some devs might worry about **being judged or not being able to contribute equally** to the process.  
- Eng3



Concerns About Conflict: Working closely with someone else **can lead to conflicts in working/coding styles**, which may deter individuals from trying pair programming. - Eng3

100% **lack of self confidence in my own programming skills**. Turns out, pairing with others helps with that ^^ a lot. Everyone has skills and deficiencies, and working together helps overcome the latter.” - Eng4







# Misconceptions

.....are normal .....

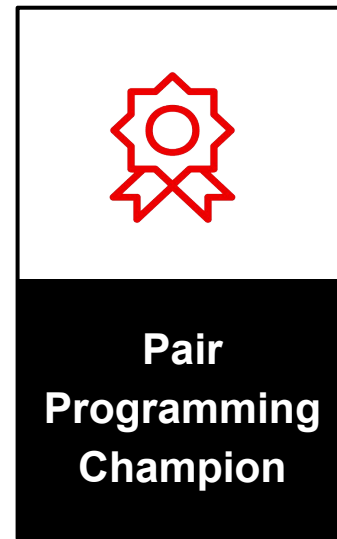
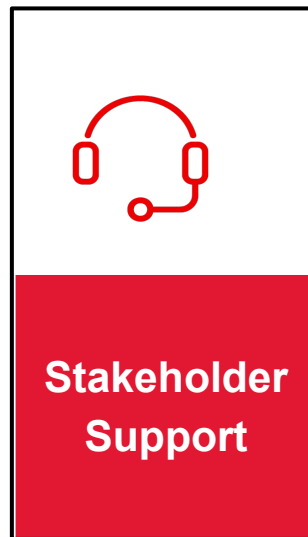
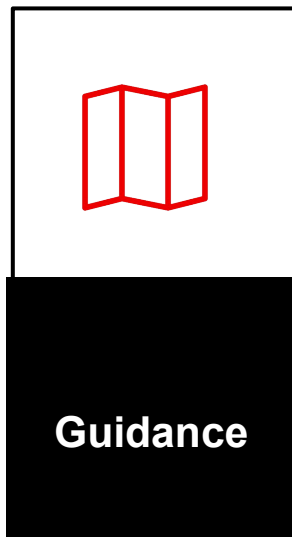
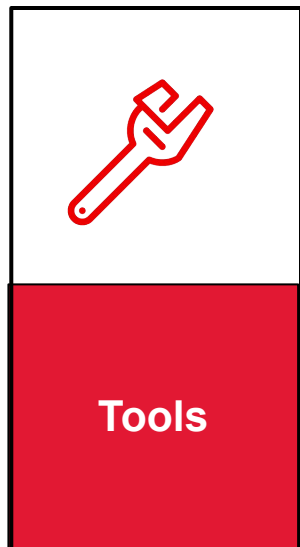




# Putting Pair Programming into Practice

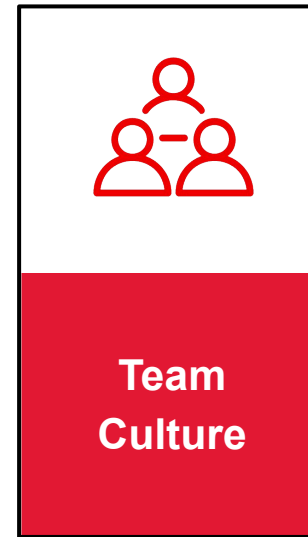
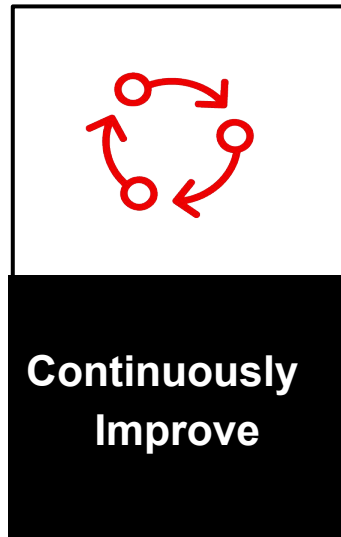
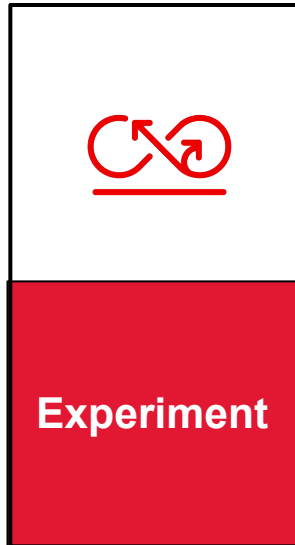


# Putting Pair Programming into Practice





# Putting Pair Programming into Practice



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# In Summary



**01:** Pair Programming has numerous benefits

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**02:** There is no one size fit all for pair programming.

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**03:** Try it! Just do it!





# References

- [1] <https://qase.io/blog/pair-programming/>
- [2] <https://www.agilealliance.org/glossary/xp/>
- [3] <https://makemeaprogrammer.com/what-are-some-benefits-of-pair-programming/>
- [4] <https://www.drovio.com/blog/7-myths-of-pair-programming/>





# Questions?

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# Acknowledgements

I would like to express my deepest appreciation to my team for providing their input & making it possible for me to share our team's pair programming journey.







# Thank you!

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