Mob Programming Learn together. Deliver together!

Thomas Much ©@thmuch

#JCON2020 27.10.2020







Software developer -

Mob Programming since 2016

Remote Mob Programming since 2020

... on the shoulders of giants ...



Agile developer coach





Mob Programming

A Whole Team Approach



By Woody Zuill and Kevin Meadows



MOB PROGRAMMING GUIDEBOOK exPress

Code with the Wisdom of the Crowd

Get Better Together with Mob Programming

Mark Pearl edited by Tammy Coron



The **Mob Programming** Guidebook

MAARET PYHÄJÄRVI

Page 1 of

INNOQ

Jochen Christ Simon Harrer Martin Huber

Remote Mob Programming

At home, but not alone

Foreword by Mark Pearl

Pyhäjärvi & Llewellyn Falco



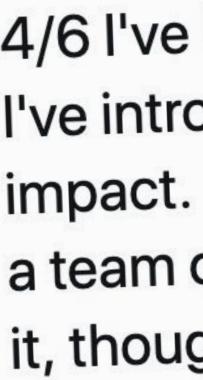


#MobProgramming gets another well deserved shoutout and excellent quick intro by @lisihocke #agrs2018

This is the most important improvement I've seen the last couple of years.

Please get hold of me if you want to Especially if you think it's ineffective

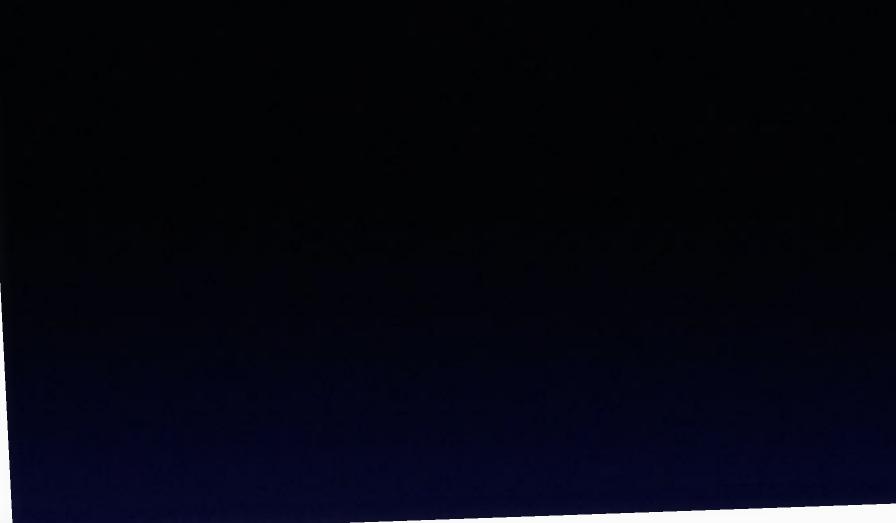
Tweet übersetzen 11:33 vorm. · 20. Sep. 2018 · Twitter for iPhone



Tweet übersetzen 12:24 vorm. · 23. Aug. 2019 · Little Pork Chop

https://twitter.com/marcusoftnet/status/1042708243544514560

 \checkmark



Allen Holub @allenholub

4/6 I've had a lot of experience with mob programming. I've introduced it to many teams, run workshops, seen its impact. It's one of the most significant improvements that a team can adopt. Most of the teams I've worked with love it, though not all.

https://twitter.com/allenholub/status/1164664754947919872



Scrum Agile Software Craft Kanban

~ 20 years old **User Stories** Pair Programming TDD Refactoring Iterations **Continuous Integration**



Mob Programming Emerged ~2011 en passant Used by teams around the globe since 2014 (similar older ideas never took off)

Woody Zuill https://woodyzuill.com/ https://twitter.com/woodyzuill

Mob Programming

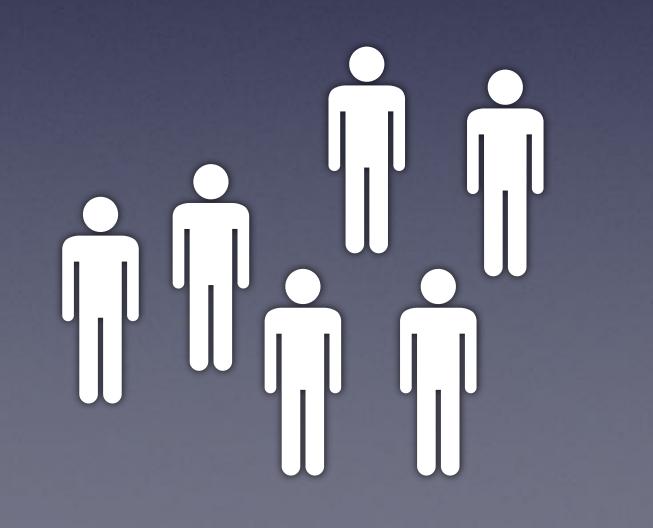
Group Programming Team Programming

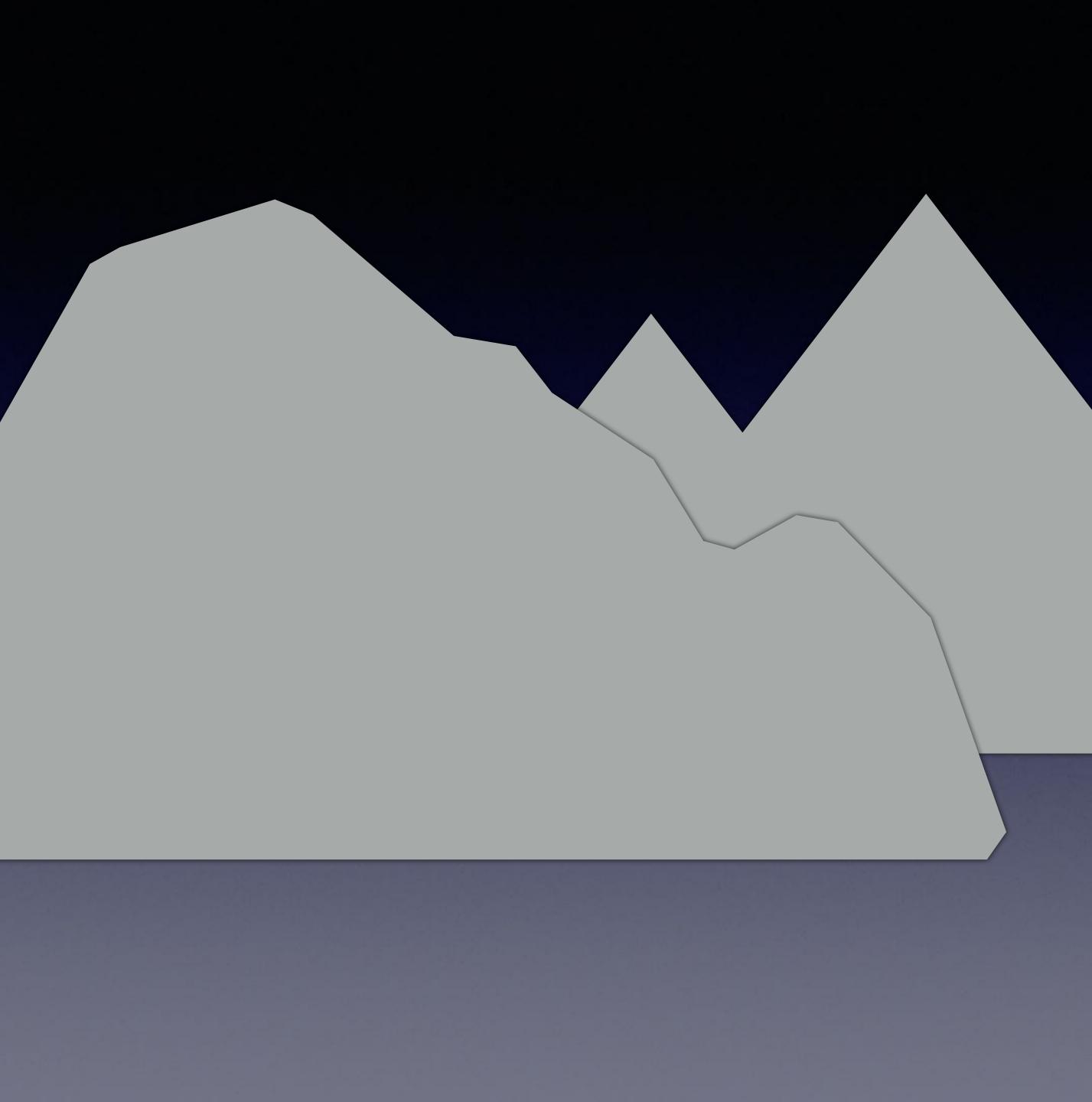
Ensemble Programming* (like, in a jazz combo)

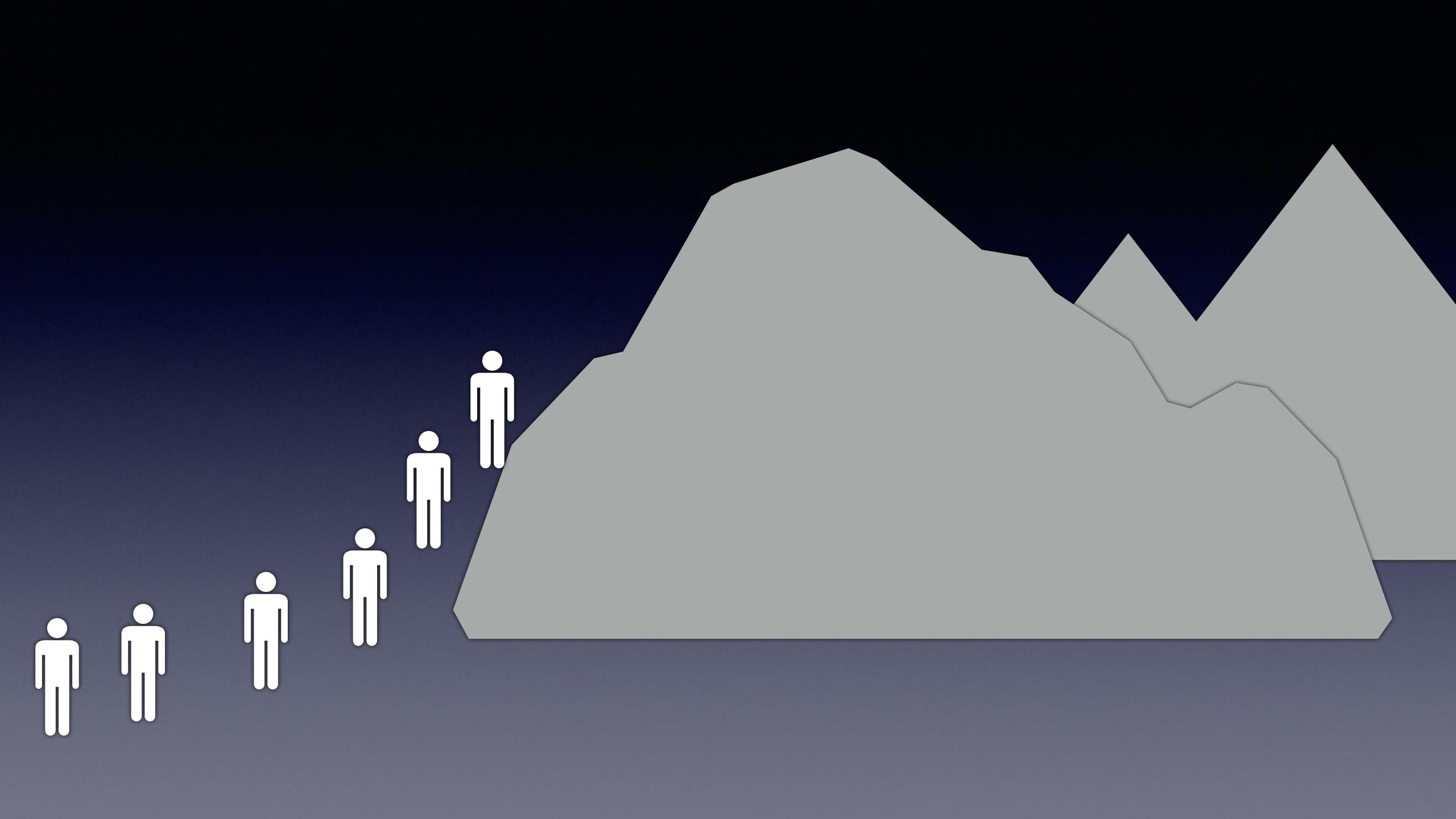
*) https://visible-quality.blogspot.com/2020/05/five-years-of-mob-testing-hello-to.html

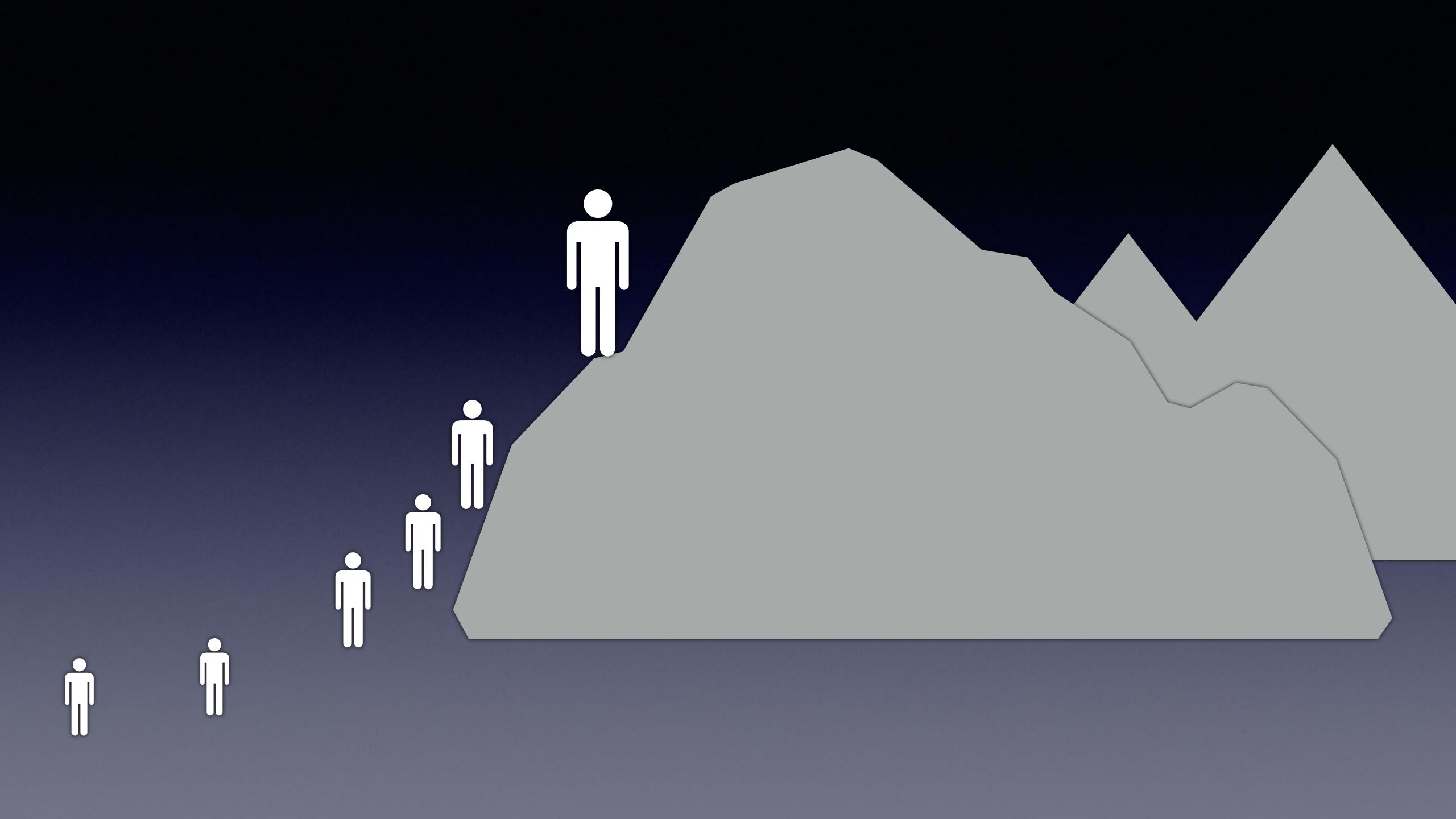
"Mobbing" 🤪 🥶

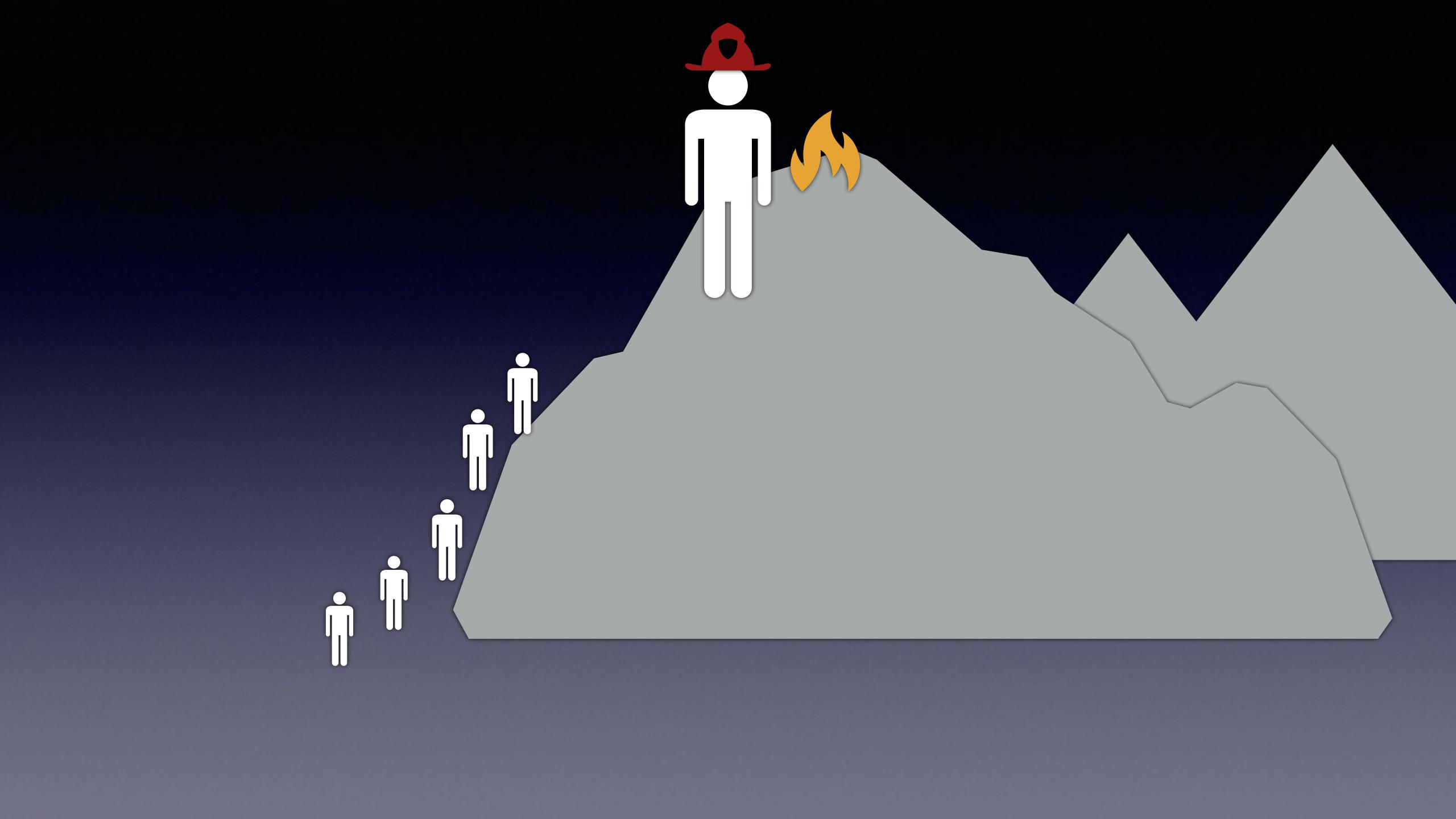
How's your team working?

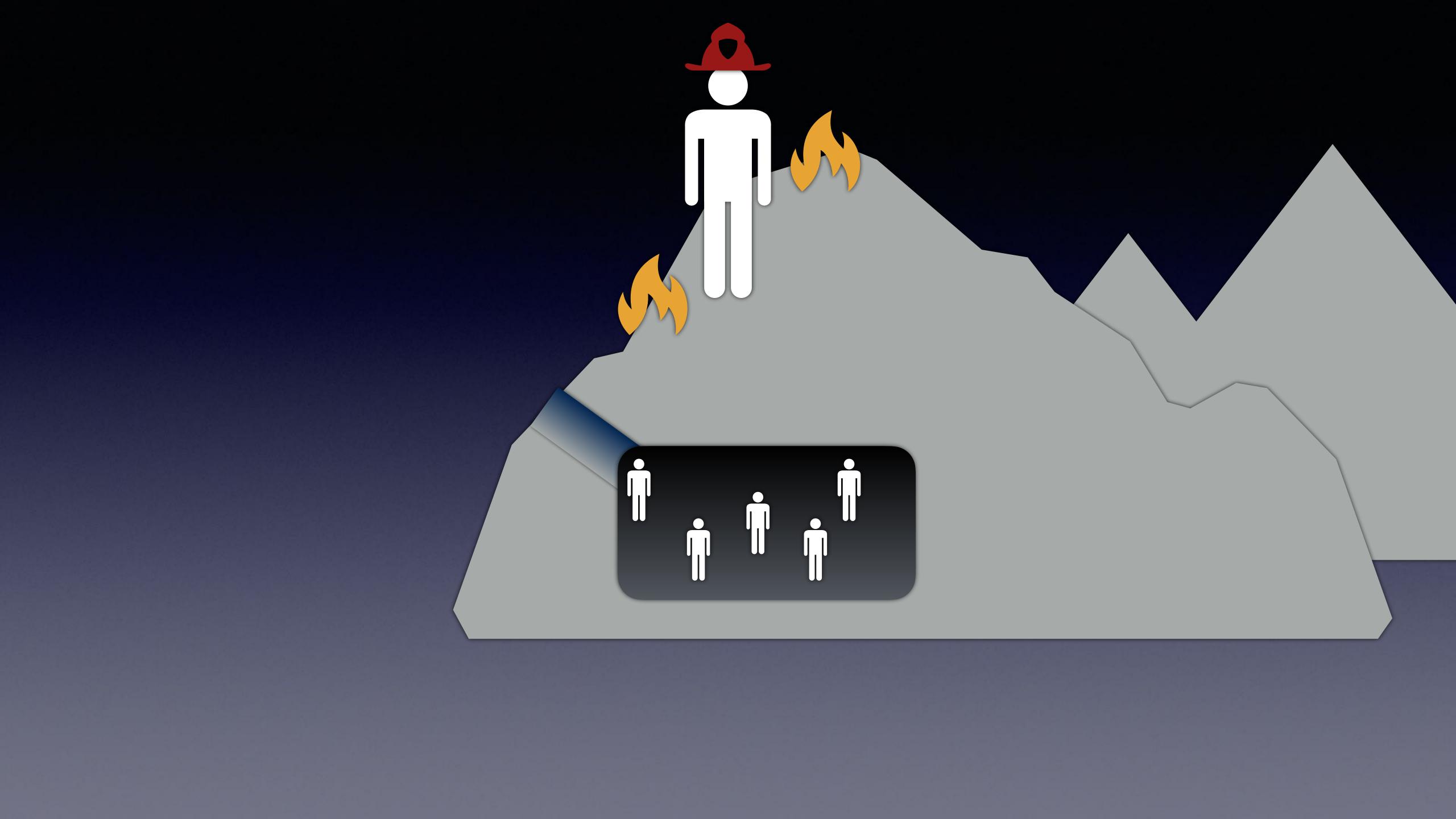


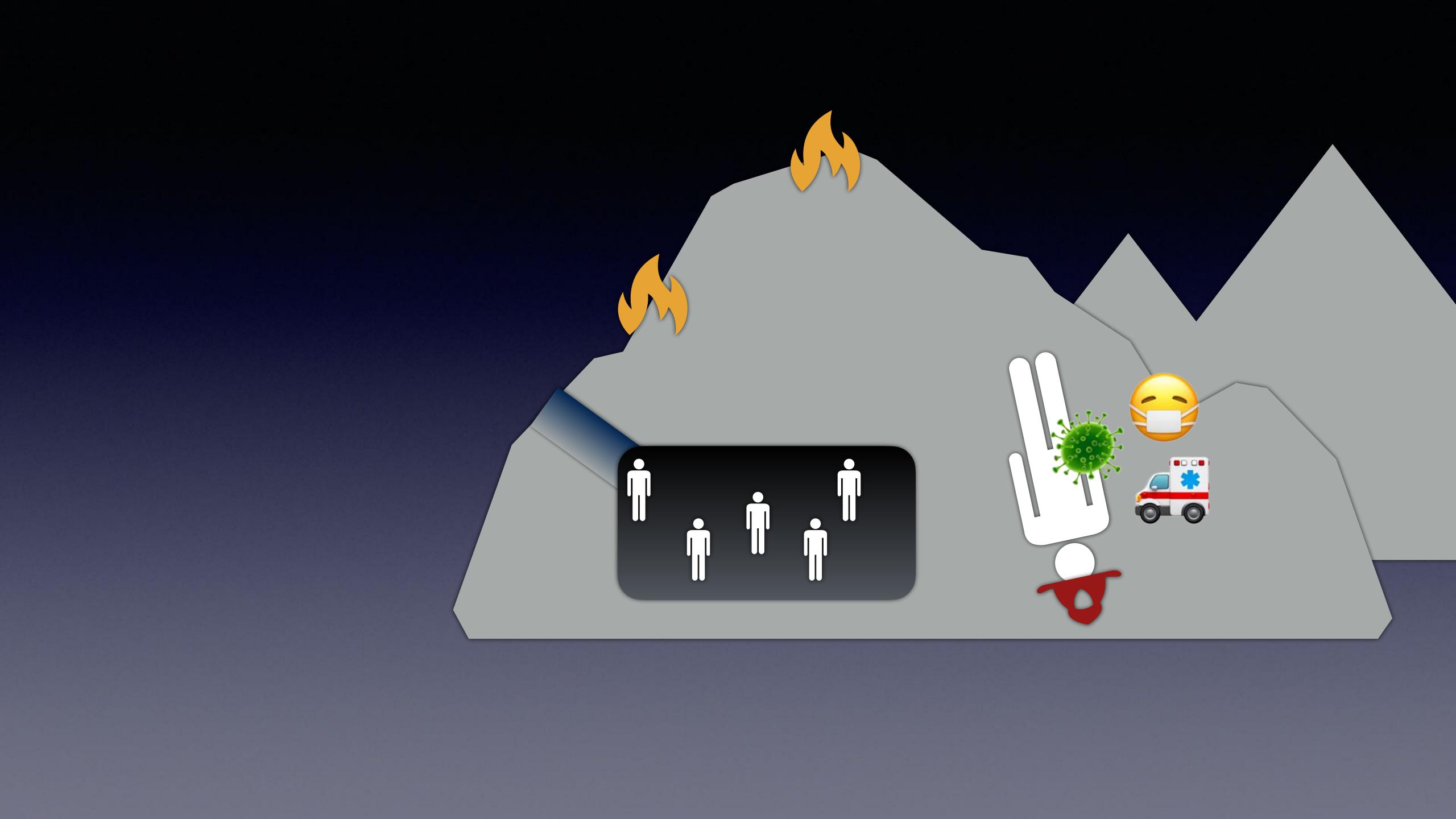












Pair Programming







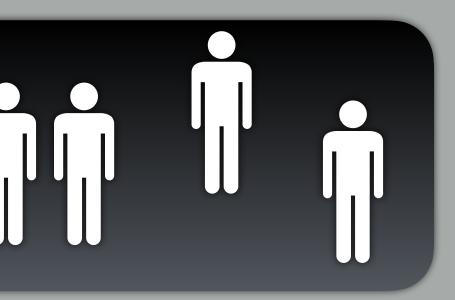


Pair Programming

88



Pair Programming





Problem

That's pretty difficult!

Why this architecture? Why is some code *missing* here?

You have to share knowledge & experience afterwards.

Collaborate? Co-author, co-create!

Why not

build knowledge and experience together

right from the start?

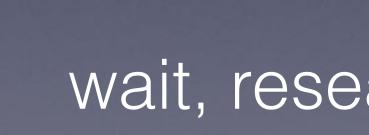
instead,

Knowledge and skills Know how

Technology Programming language Tooling

STOP





Product Domain

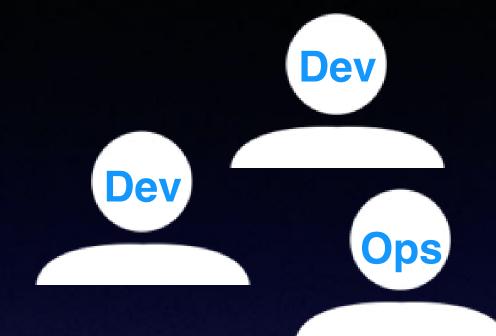
Tests Quality

STOP

STOP



STOP



Technology Programming language Tooling









Tests Quality



Technology Programming language Tooling

Dev

Dev

Ops

Mob Programming

at the same time, in the same space!

Product Domain

ΡΟ



Tests Quality



Mob Programming

- "It's about getting the **BEST** (not the **most**) from your team." Llewellyn Falco
 - "All the brilliant minds working on the same thing, at the same time, on the same computer."
 - Woody Zuill
 - "Continuous Integration of Ideas"
 - Joshua Kerievsky



Allen Holub @allenholub

Antwort an @BillyGarnet und @mcflyDev

I see Mob Programming as an improvement over Pair Programming. They're both useful, of course, but I've seen Mob Programming be successful in places where Pairing didn't work. Pair Programming is like going on a date. Mobbing is like having dinner with friends. Different dynamic.

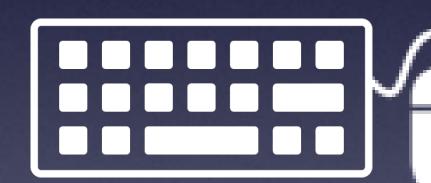
6:34 nachm. · 11. Mai 2020 · TweetDeck

https://twitter.com/allenholub/status/1259884517516443651

"Pair Programming is like going on a date. Mobbing is like having dinner with friends. Different dynamic."

How does Mob Programming work?

NB: There is no "right" or "wrong"!



https://commons.wikimedia.org/wiki/File:FORD_Taunus_17M_P2_deLuxe_Steering_wheel.jpg

Driver & Navigator



http://www.marcusvenzke.de/HamburgKarte/



Driver-Observer Anti-Pattern



Worker

Watcher

Switch roles!

Fixed timebox \rightarrow pass keyboard (every 5-10 min.)

Use timer app, e.g. * http://mobster.cc/ * https://cuckoo.team/ * https://mobti.me/ or smartphone timer app

Rotation for attentiveness







Strong style navigation!default mob programn "strong style"

"traditional"

https://twitter.com/thmuch/status/959456902877974528

@LlewellynFalco







All the brilliant minds

Switch roles across the whole team!

Fixed timebox \rightarrow pass keyboard (every 5-10 min.)

Getting the **most important** task done first.

Ops

PO

QS

Dev

Dev

UX



Mob session agenda

- Short introduction to the task
- Discovery/estimation/planning/implementation
- Break ca. 1x per hour
- Duration of the mob session? 2h, ..., half day, whole day

Agree guidelines for this mob session (timebox, navigator? etc.)



Mob session agenda

- Agree guidelines for this mob session
- Short introduction to the task
- Discovery/estimation/planning/implem
- Break ca. 1x per hour
- Duration of the mob session? 2h, ..., h
- Short retrospective (start/stop/keep)

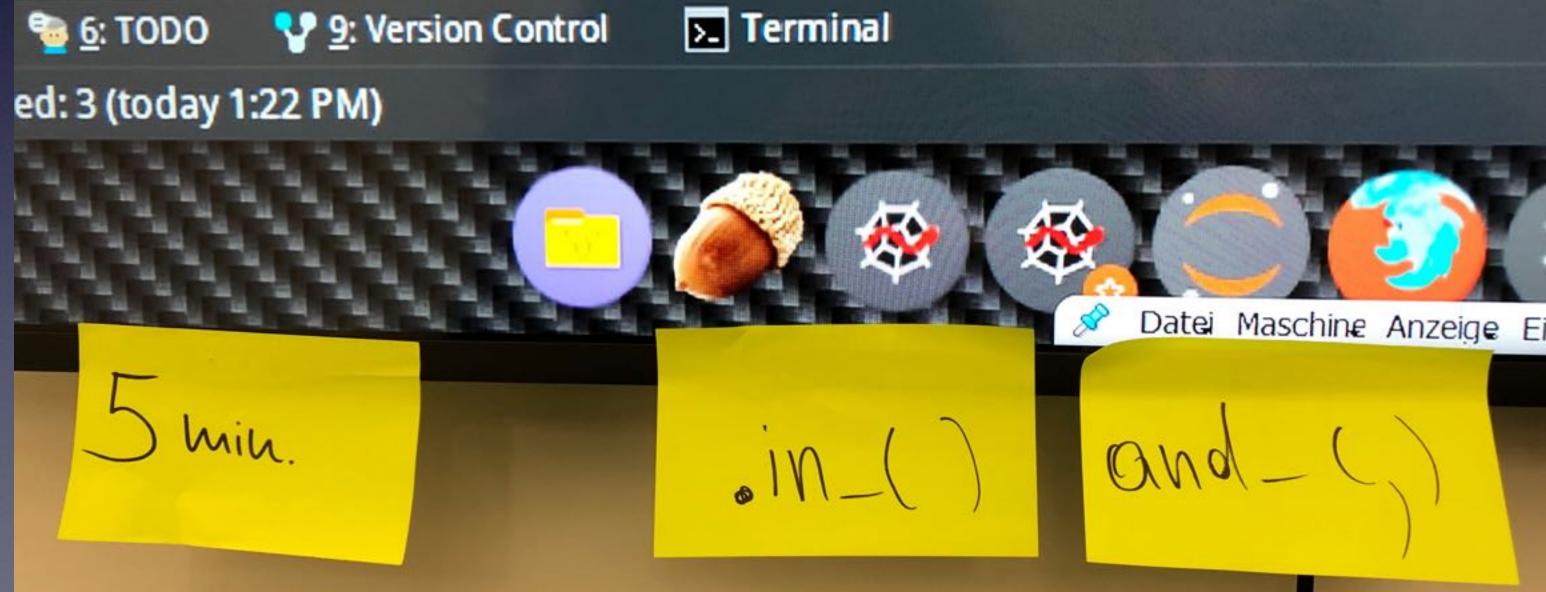
2XX

STOP



Helpful

- Note down guidelines & insights clearly visible (timebox, ideas, shortcuts ...)
- Use *all* media! (flip chart, whiteboard, wallpaper, writable wall, sticky notes ...)





Possible! But definitely not necessary. (cf. Pair Programming)

100% Mob Programming?

It's a tool.

ixabay.com/de/photos/schraubenschl%C3%BCssel-werkzeug-3013129/



100% for the most important task

. . .



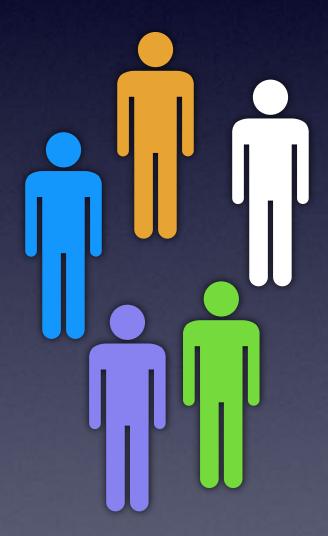
lunch

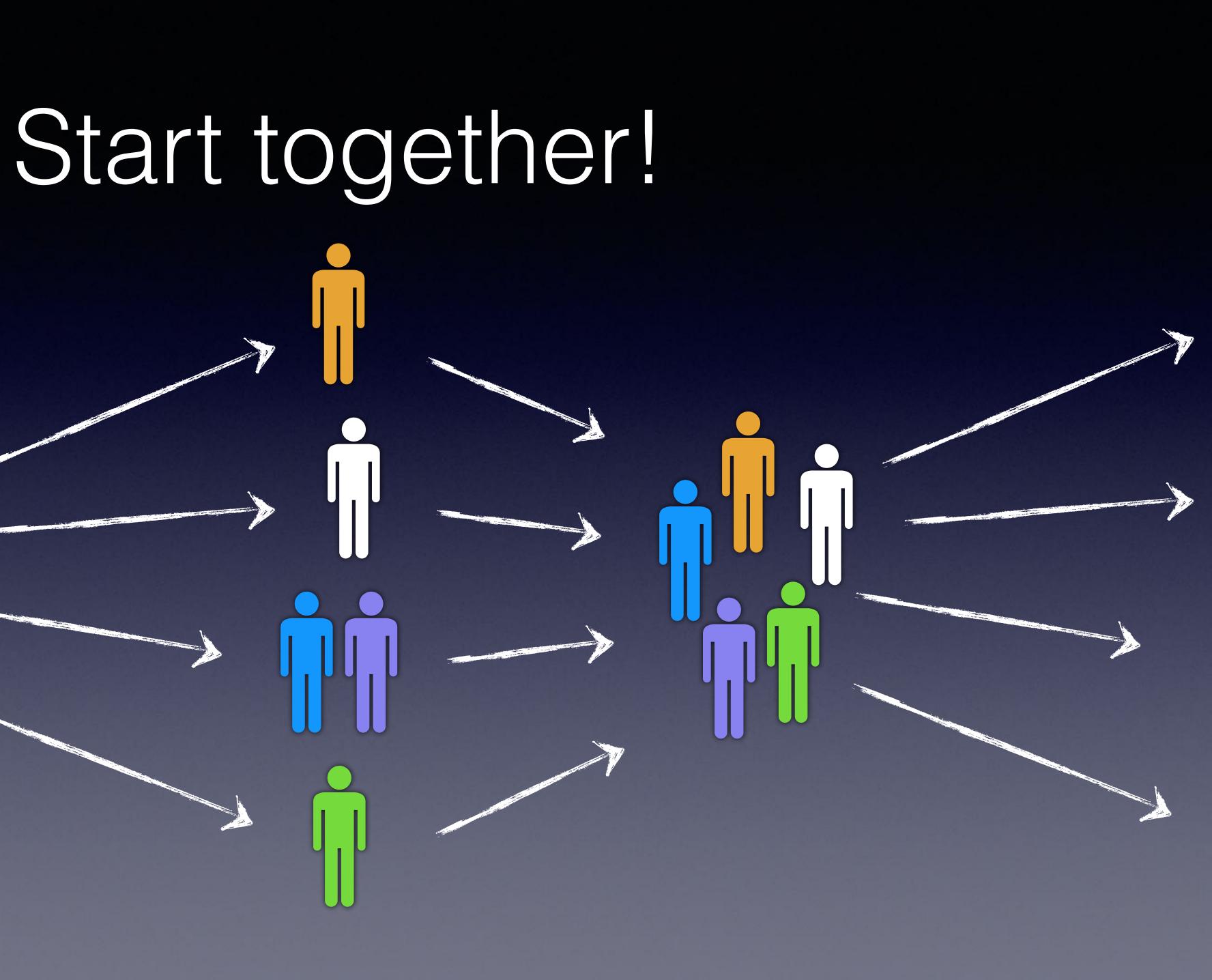
but not everybody has to be there 100% of the time!

Dynamic mob: come and go

hairdresser call it a day

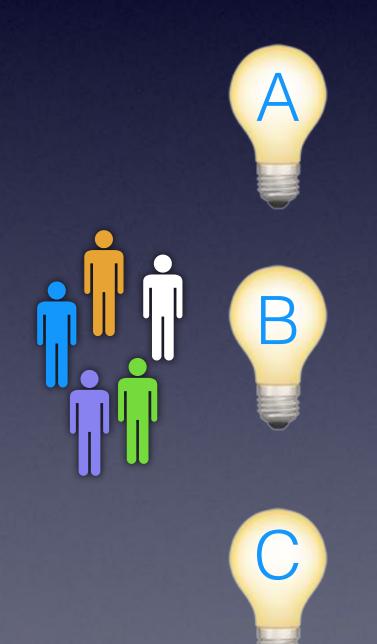
pick up children





Team decisions

More than one idea? Try them all!









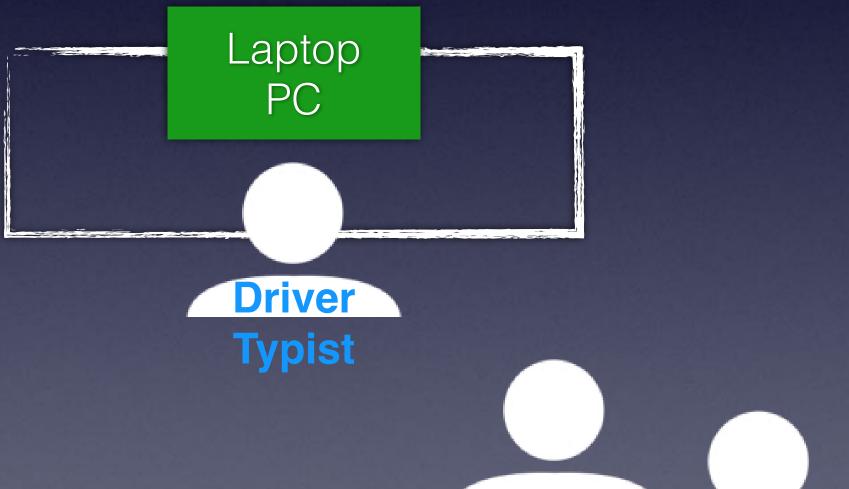




Driver, navigator & rest of the mob

Large screen (projector)

Code commits only here!



Nav. Maybe doing research on their own device

based on the "Mob Programming Guidebook"

Host

SF. CXC CXC CXC CXC



rest of the mob Driver, navigator &

Code commits only here!

Laptop PC

Driver **Typist**

https://ohil.cdc.gov/Details.aspx?pid=23312

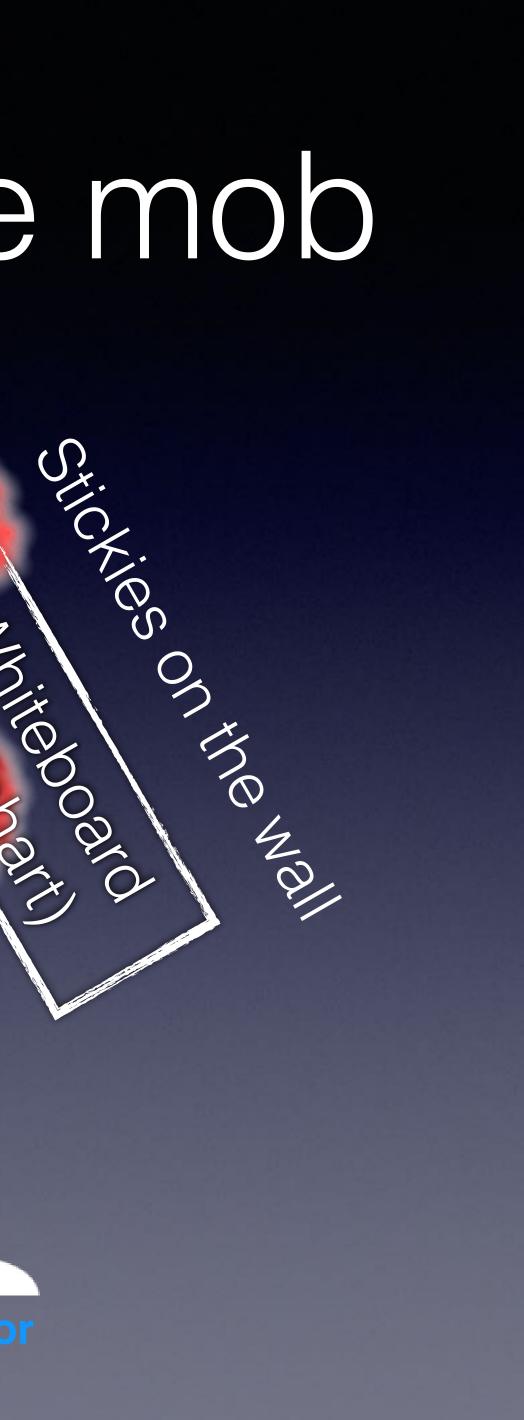
Large screen (projector)

Maybe doing research on their own device

Host

Nav.

T



Remote Mob Programming

Remote Everybody Camera Always On Regular On-Site Meetings Small Team Same Time Typist and the Rest of the Mob Screen Sharing 10 Minute Intervals Git Handover Group Decisions **Constant Momentum** Learn from the Team Trust Save the Planet Dine with your Family



https://www.remotemobprogramming.org

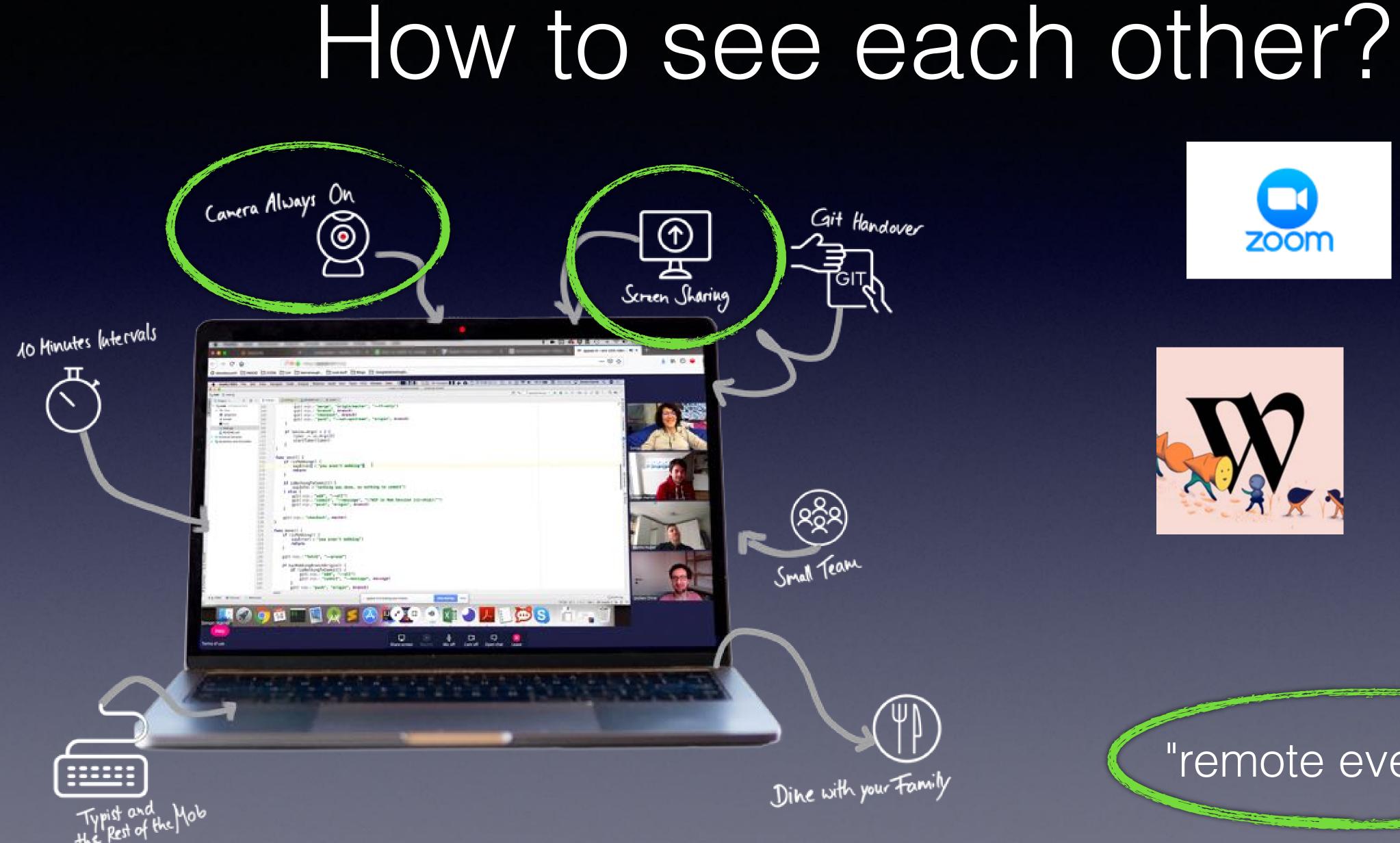
Remote Mob Programming

More than just remote, distributed teams!

"Asynchronous communication over synchronous communication."

(GitLab) Remote Manifesto \leftrightarrow Remote Mob Programming

"same time"









slack

"remote everybody"





How to code together?



simon\$ mob start 10 # WORK # after 10 minutes... simon\$ mob next # carola takes over as the second typist carola\$ mob start 10 # WORK # after 10 minutes... carola\$ mob next simon\$ mob start 10

WORK

After 6 minutes the work is done. simon\$ mob done simon\$ git commit --message "describe what the mob session was all about"

... many other tools like https://github.com/otto-de/rstash

simon begins the mob session as typist

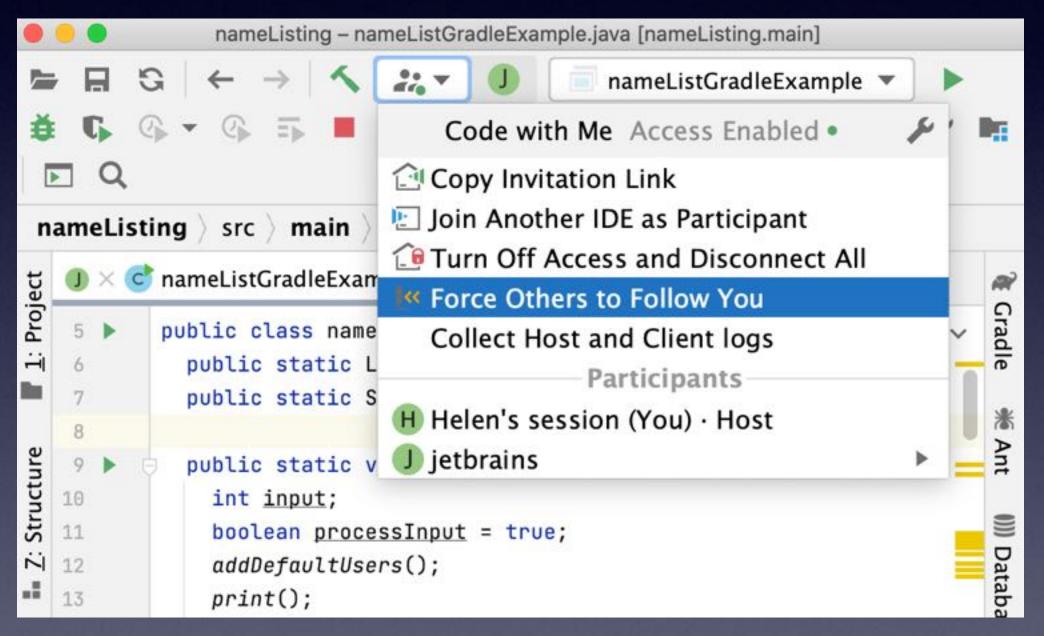


https://mob.sh/



How to code together?

IntelliJ & Code With Me



https://www.jetbrains.com/help/idea/code-with-me.html





VS Code & Live Share Share your IDE!

SESSION DETAILS	1	import GridArrow from
 Participants (3) 	2	<pre>import GridLegend fro</pre>
Jon W Chu • Header.js:12	3	<pre>import GuestbookGrid(</pre>
	4	
Amanda Silver • GuestbookGrid.js:13	5	export default class
O PJ Meyer • GuestbookGrid.js:9	6	constructor(props)
Shared Servers (2)	7	<pre>super(props)</pre>
r∉ localhost:3000	8	this.state = PJ Me
	9	signatures sig
r REST API	10	}
Shared Terminals (2)	11	}
▶ bash (Read-only)	12	Amanda Silver
▶ bash (Read/write)	13	render() {
	14	const cells = thi
 Audio Participants (3) 	15	<guestbookgrid(< td=""></guestbookgrid(<>
◄× Jon W Chu	16));
📣 Amanda Silver	17	}
I PJ Meyer	18	}

https://visualstudio.microsoft.com/services/live-share/









mobti.me/



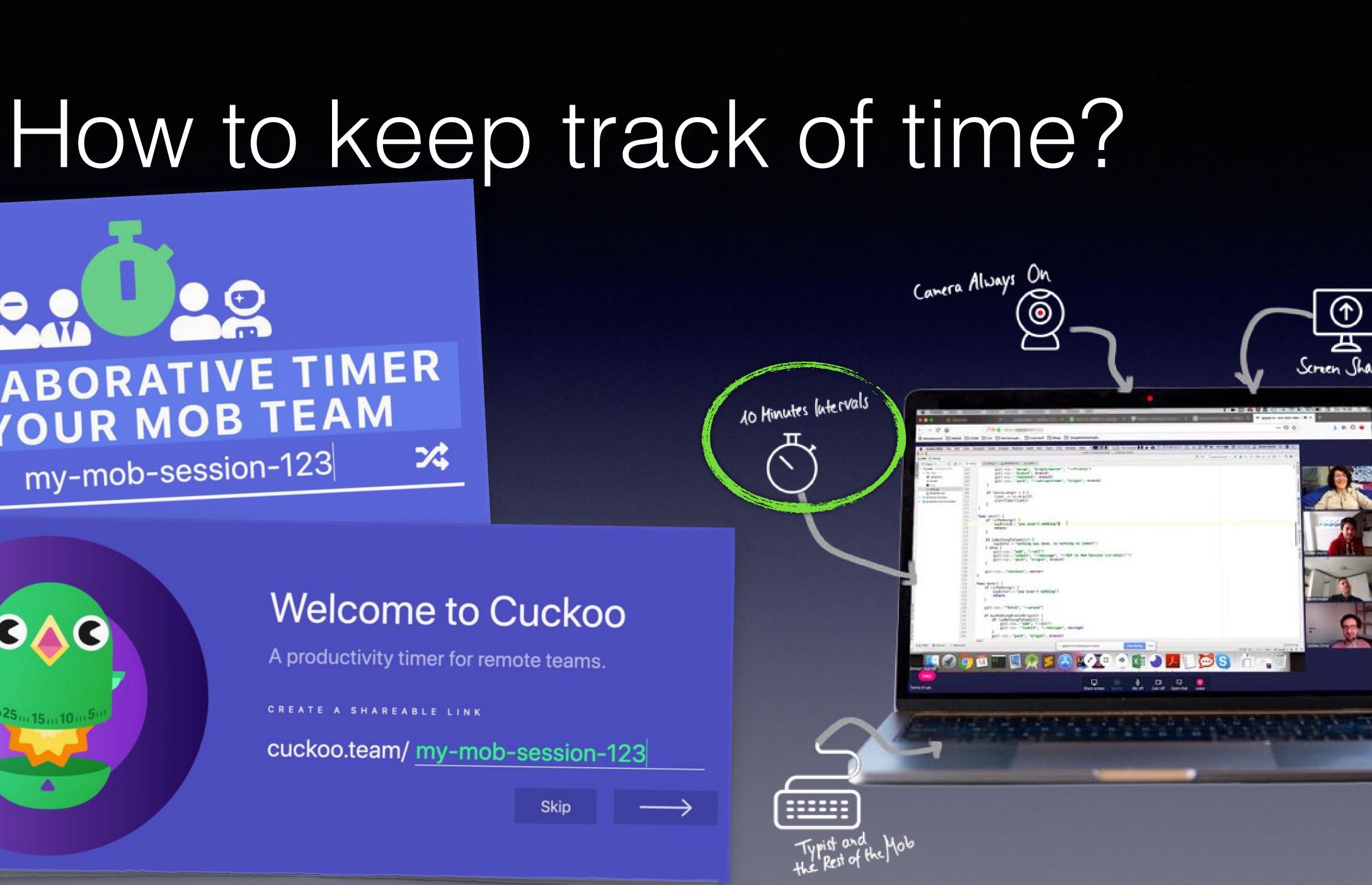


Welcome to Cuckoo

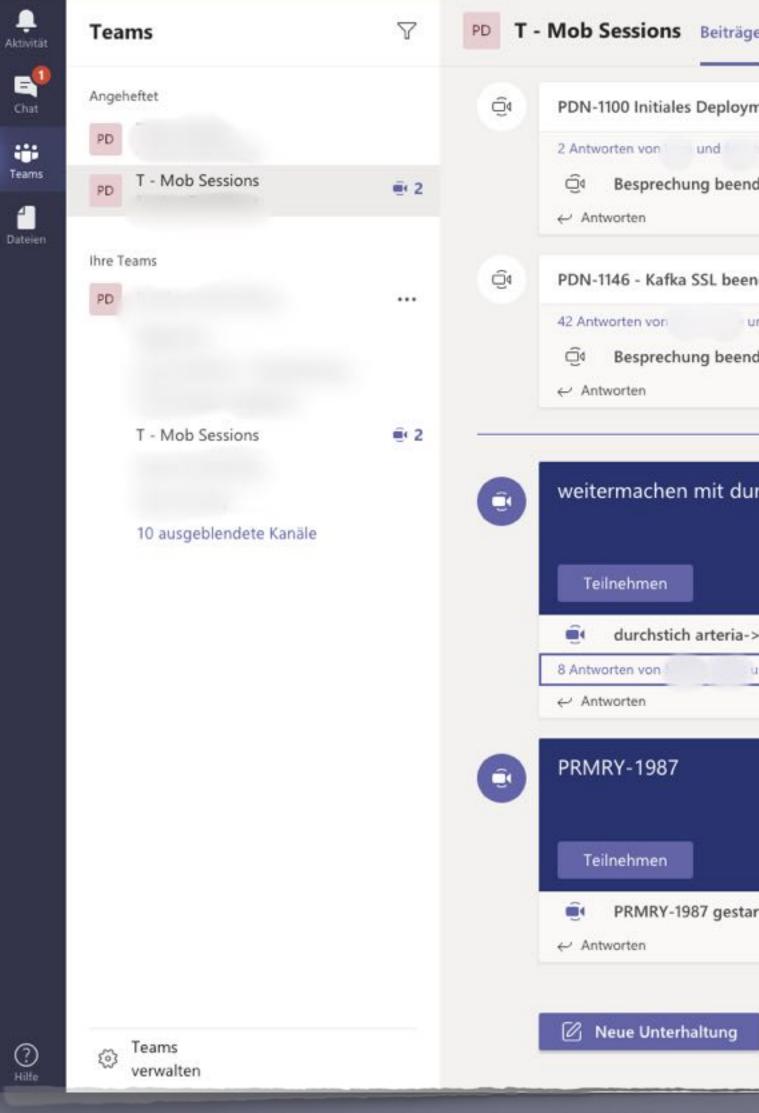
A productivity timer for remote teams.

CREATE A SHAREABLE LINK

cuckoo.team/ my-mob-session-123



How to find my next mob session?



ge Dateien Wiki 1 weitere \sim	
ment gestartet	🤶 2 MeetUps 🗸 🗸
nen gestartet	
det: 37 Min. 59 Sek.	
ndet: 28 Sek.	
und	
det: 2 Min. 52 Sek.	
Zuletzt gelesen	
irchstich	01:02:23
>cp->xpdp->pdn testen gestartet	
und	
	13:13 🌰 🔘
rtet	



Whether remote or co-located...

There will be "mobs" of 2 ...

Your pair programming will get better by practicing mob programming!

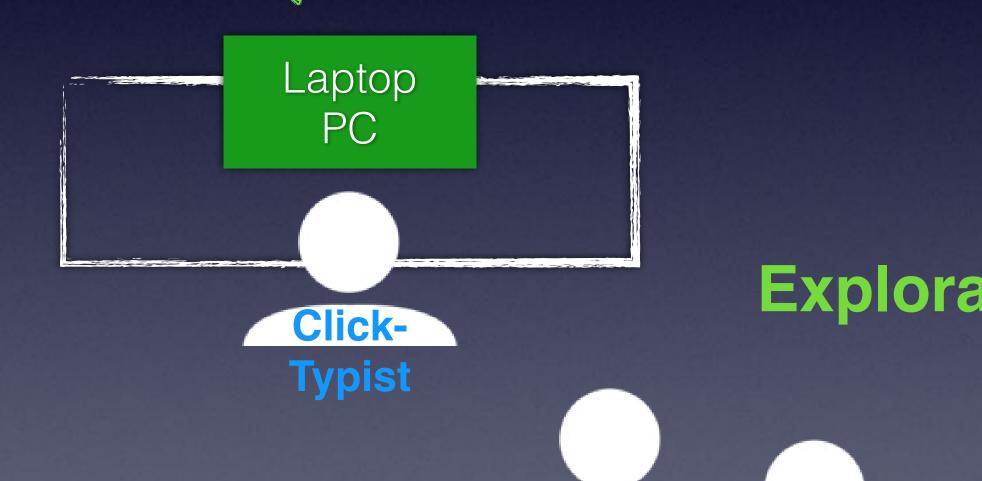
Being "driver" vs. being "typist"

Pair programming – being driver can be stressful 1:1

Too large gap in knowledge and skills?

Mob programming – relax while being typist Wait, lean back & let the navigators do the thinking Keep the minutes (in code)

Work through application under test



Mob Testing

Large screen (projector)

Test protocol etc. **Explorative testing** etc.

Why is it working?

Mob Programming is

making implicit (tacit) knowledge & skills visible.

See. Experience. Do it yourself.

Watch others think.

Different to meetings!

Mob Programming yields

Making us & our customers happy 😃

Mob Programming: Learn together. Deliver together.

working, tested, shared code.

Mob Programming Know-how transfer Pair Programming Taking breaks Coaching Questions? Readability XP Modern Agile Simplicity Strong Style navigation Velocity Speed





Thank you!

"We are uncovering better ways of developing software by doing it and helping others do it." *



*) https://agilemanifesto.org/

thomas@muchsoft.com @thmuch

Further Reading

https://mobprogramming.org/ https://leanpub.com/mobprogramming

https://www.remotemobprogramming.org/ https://leanpub.com/remotemobprogramming

https://mobprogrammingguidebook.xyz/ http://www.mobprogrammingguidebook.com/

https://pragprog.com/book/mpmob/code-with-the-wisdom-of-the-crowd

https://www.chrislucian.com/p/companies-that-are-mob-programming.html

Mob Timer

- https://cuckoo.team/
- https://agility.jahed.dev/
- http://mobtimer.zoeetrope.com/
 - https://mobtimer.com/
- https://saschamz.github.io/mobtimer/
- https://github.com/MobProgramming/MobTimer.Python
 - https://github.com/pluralsight/mob-timer
 - http://mobster.cc/

https://mobti.me/

Modern Agile

Agile, the working way.

Mob Programming Cheat Sheet Created by Coaches and Developers @IndustrialLogic

What is Mob Programming? "All the brilliant people working on the same thing, at the same time, in the same space, on "Mob Programming is continuous integration

There are many ways to successfully mob. In general, there is one computer, a keyboard and mouse, one or more monitors, a whiteboard, one Driver and one or more Navigators sharing a work environment like the one below:



deal Mob Size The whole team, although ams of 3-6 people is ideal. Beyond 6 people, a Image by Mark Pearl b may have difficulties keeping everyone aged. You can counter this with quicker

r's Role - The Driver operates the ter to input/implement ideas made by

Navigator(s) Role - Navigators direct the Driver. Usually it works to allow everyone in the Mob to interact directly with the Driver. If that causes too much chaos, have one Navigator give directions to the Driver and the Navigator serves as the voice of the Mob. Newbies to mobbing can ask for help on how to navigate.

Driver Dos & Don'ts • Drivers don't navigate. If the Driver is the

only one who knows what to do, they can relinquish their role as Driver to the next

 Each Driver can share how they prefer to be directed, including asking questions about intent, location and details. Ultimately, navigators must communicate in a way that

allows the Driver to understand and take If no one is navigating, the Driver must stop

Navigator(s) Dos & Don'ts

 Navigator ideas can only be programming by Navigators must pay attention to the Driver's skill level. If the Driver needs word-by-word instructions, the Mob must explain in detail what the Driver needs to do. If the Driver is more advanced, Navigators give higher-level instructions, like "commit it" or "move that method to the parent class". Over-navigating

entails too much too little. Don't sit and watch learns and contribute

- Mob Responsibilities
- Treat everyone with kind.
- Plan, discuss, research, and w. on the whiteboard If a Driver begins to navigate and drive simultaneously, someone else in the Moo

- Keep the Mob going as people join or leave Stakeholders, Managers, Subject Matter

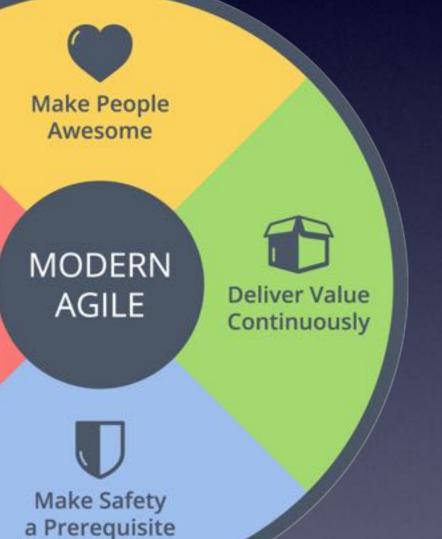
Experts, etc. are welcome to join a Mob, but are not required to drive or navigate.

Leaving/Joining the Mob - It is fine for Someone to leave or join the Mo') for the ever reason. If they are a Drive, they elinquish the to the next nercon in line The to the role to the next person n line The Jerson leaving should tell the tuam when or if they'll return so that the team can adjust the rotation

Switching Drivers - The Driver switch over shouldn't take more than a few seconds. The teams should determine the best way to accomplish that goal. Switching Drivers is easiest when the Mob shares a single static and settings. If individuals in the



Experiment & Learn Rapidly



#NoEstimates #NoProjects

//modernagile.org/



Any managers here?

But our speed!

do things right 🖌 do the right things

deliver output

"If you need to be fast, slow down"

deliver value deliver outcome



Well... what do you optimise for?

Deliver most important feature to our customers

Keep developers as busy & working to capacity as possible

(hint: VVYO4IVVYG)

5 devs for 1 (ONE) task???

Or

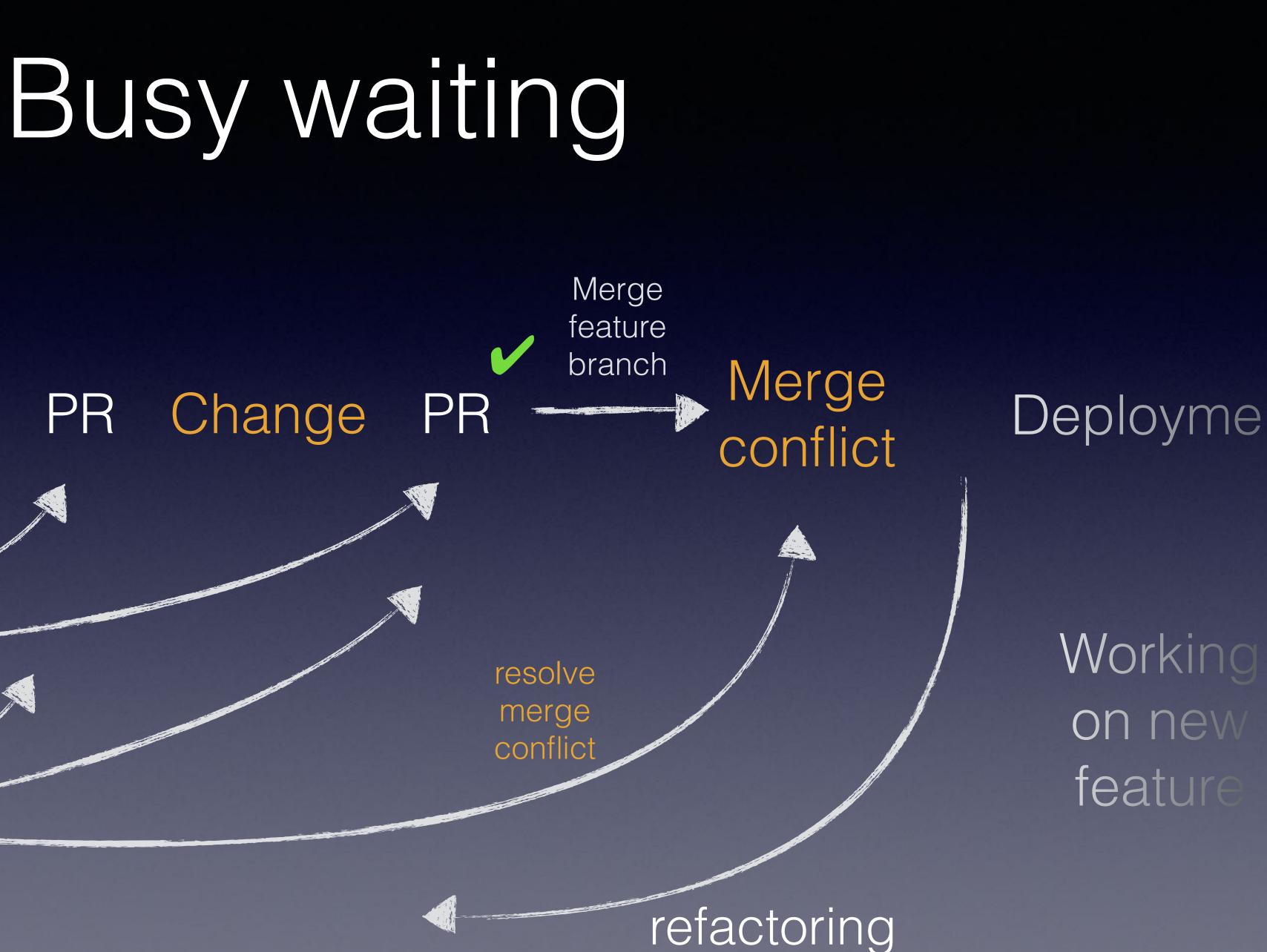


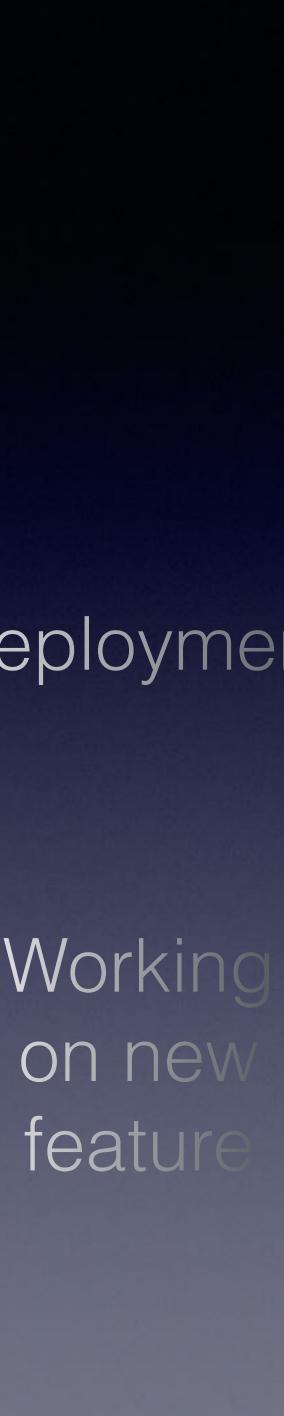
Change PR PR

... reviews ...

015

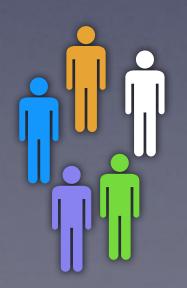
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... of value delivered to our customers:

Maximize number of things done Minimize waste



working on feature (including reviews + refactorings + ...)



FIOW







Tackle complexity

Our problems (tasks) are getting more & more complex

Team has to comprehend **path** to the solution (not only the result)

Why this architecture? Why is some code *missing* here?

3 stages of Mob Programming

Learning together Being productive together

Exploring together