Further Together: Curated Pairing Culture @Pivotal

Neha Batra
@nerdneha
#furtherpairingtogether #qconsf

Goals

1. Failed Attempts
2. Pairing @ Pivotal Labs
3. Pair Programming & You
4. Good times
5. War Stories
6. Lessons Learned

Why do I care about pairing & culture?

Why do I care about pairing & culture?

- Inclusion
- Teamwork
- Learning
- Challenging ourselves

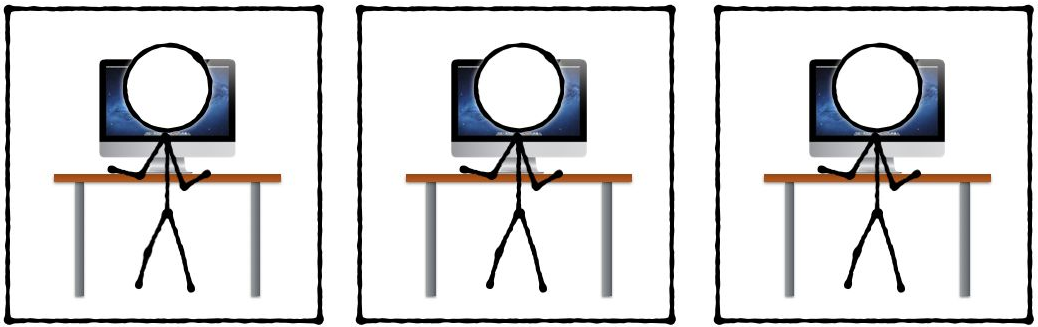
Goals

1. **Failed Attempts**
2. Pairing @ Pivotal Labs
3. Pair Programming & You
4. Good times
5. War Stories
6. Lessons Learned

NEHA

NEHA

NEHA



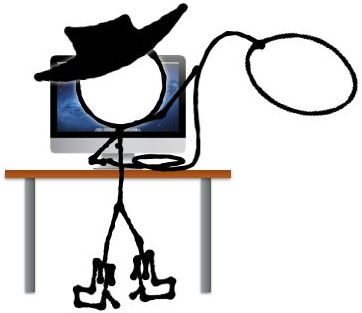
Credit: Onsi Fakhouri

Distraction

Credit: Onsi Fakhouri

Distraction

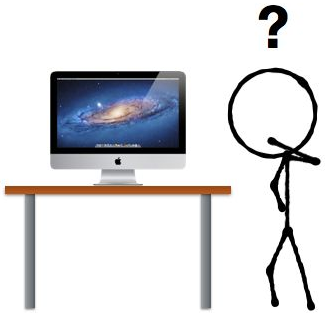
Cowboyism



Credit: Onsi Fakhouri

Distraction

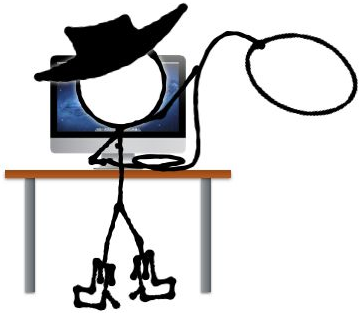
Cowboyism



Credit: Onsi Fakhouri

Distraction

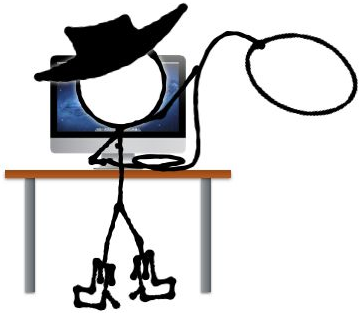
Cowboyism



Credit: Onsi Fakhouri

Distraction

Cowboyism

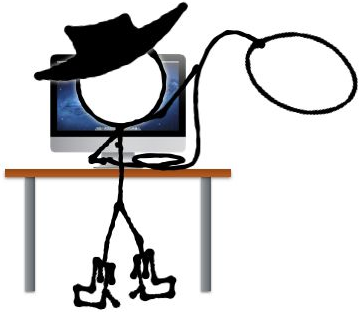


Unsustainable

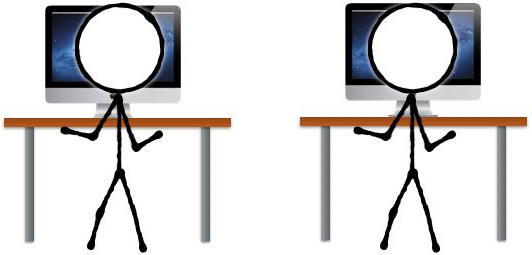
Credit: Onsi Fakhouri

Distraction

Cowboyism



Unsustainable

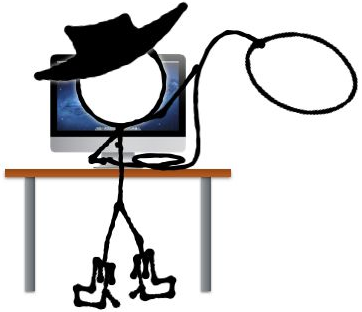


Miscommunication

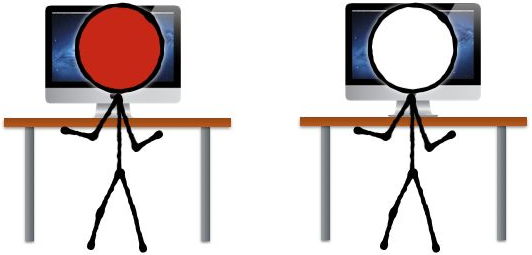
Credit: Onsi Fakhouri

Distraction

Cowboyism



Unsustainable

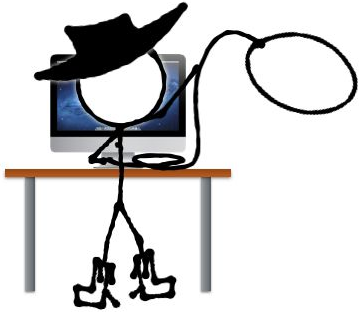


Miscommunication

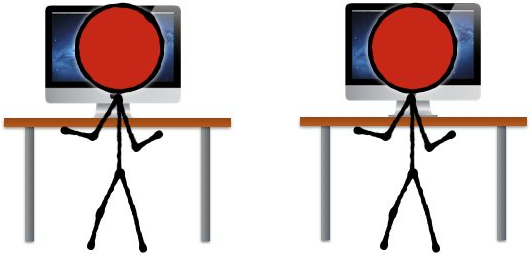
Credit: Onsi Fakhouri

Distraction

Cowboyism



Unsustainable

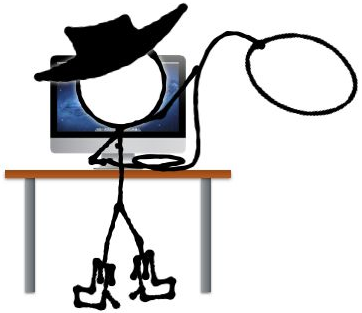


Miscommunication

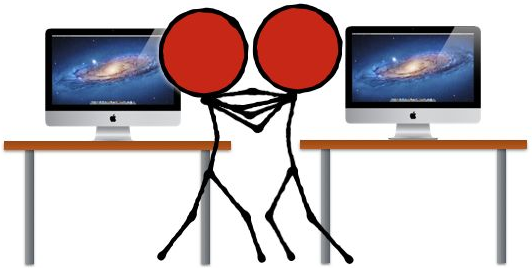
Credit: Onsi Fakhouri

Distraction

Cowboyism



Unsustainable

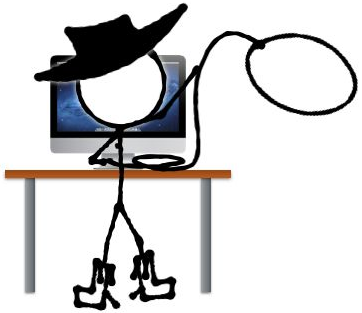


Miscommunication

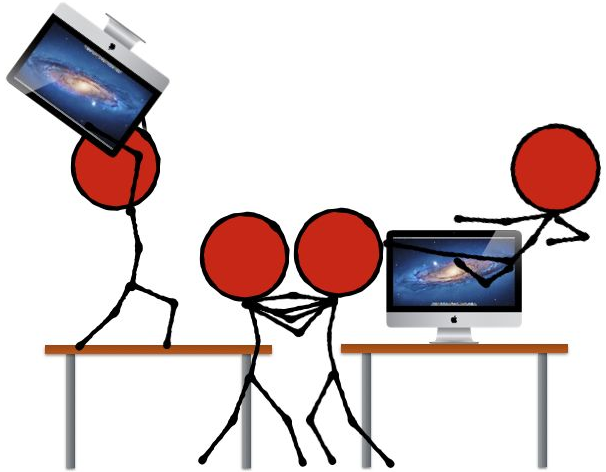
Credit: Onsi Fakhouri

Distraction

Cowboyism



Unsustainable

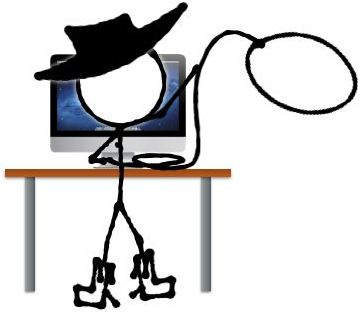


Miscommunication

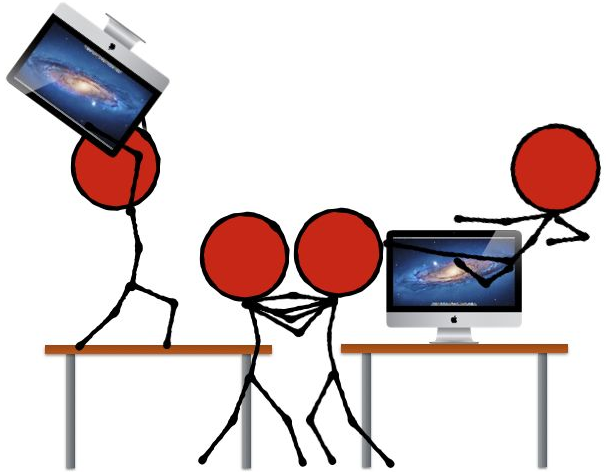
Credit: Onsi Fakhouri

Distraction

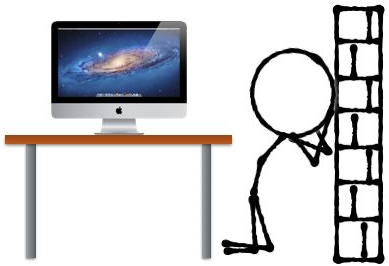
Cowboyism



Unsustainable



Miscommunication

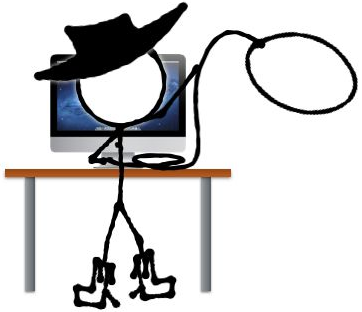


Stuck

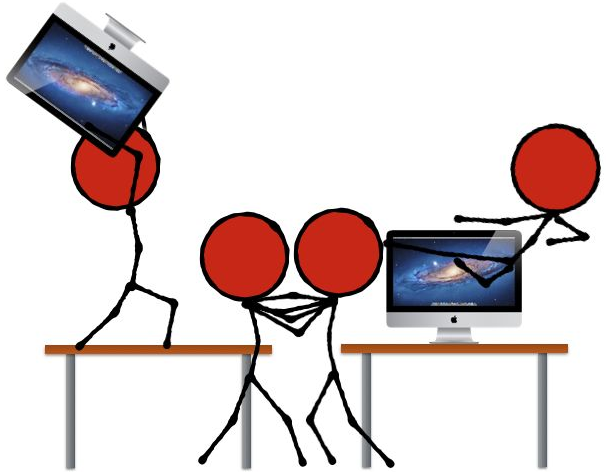
Credit: Onsi Fakhouri

Distraction

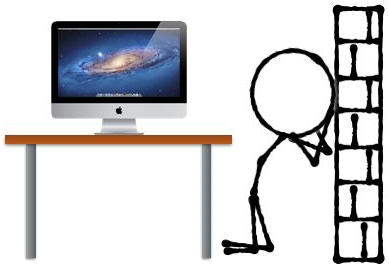
Cowboyism



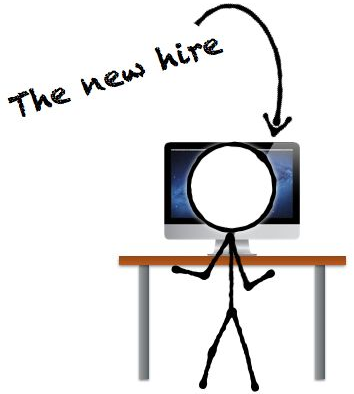
Unsustainable



Miscommunication



Stuck

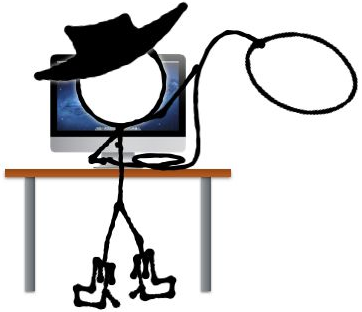


Noobs

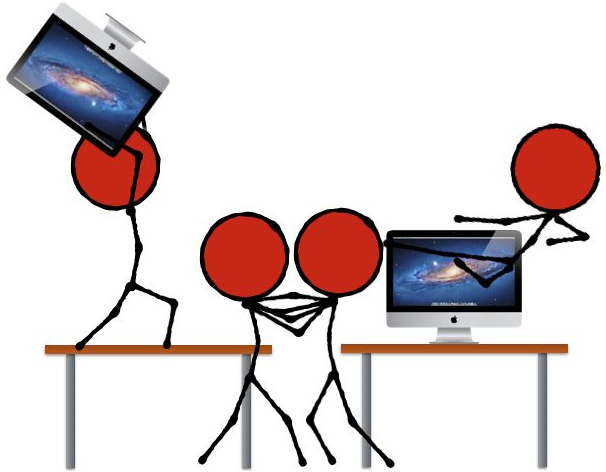
Credit: Onsi Fakhouri

Distraction

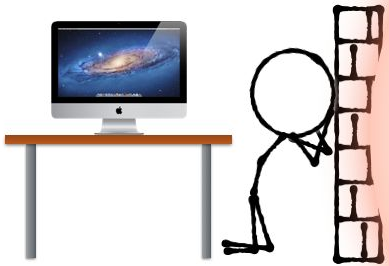
Cowboyism



Unsustainable

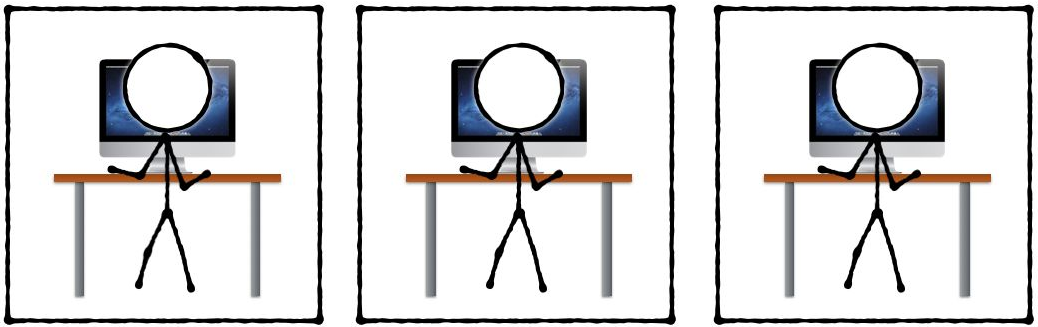


Miscommunication



Stuck

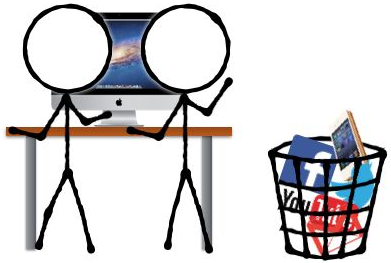
Credit: Onsi Fakhouri



Credit: Onsi Fakhouri

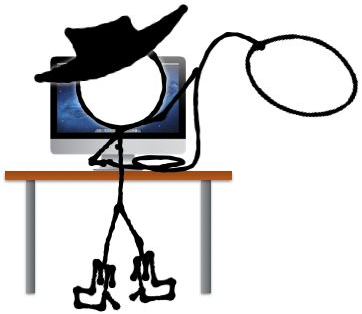
Credit: Onsi Fakhouri

Distraction

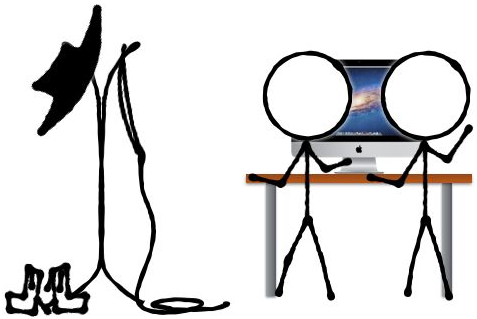


Distraction-free

Credit: Onsi Fakhouri



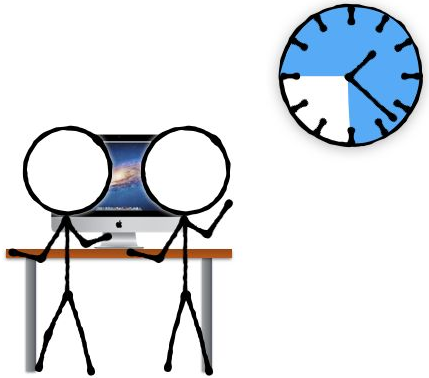
Cowboyism



Collaboration

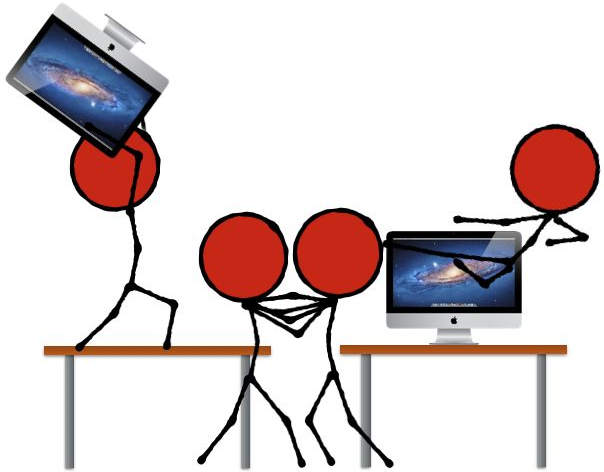
Credit: Onsi Fakhouri

Unsustainable



Sustainable

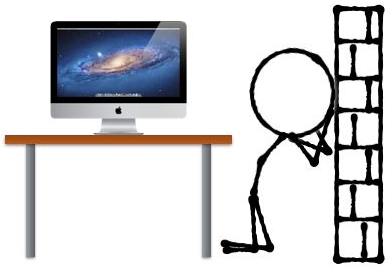
Credit: Onsi Fakhouri



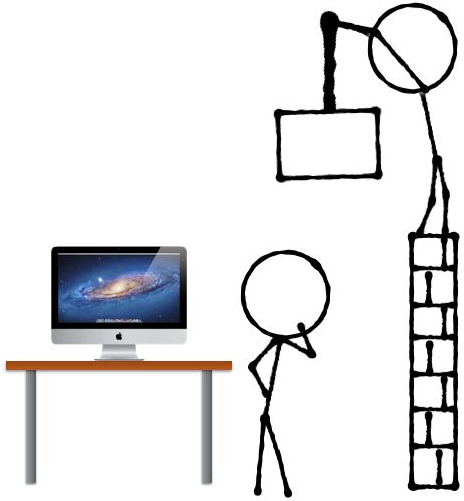
Miscommunication

Constant Communication

Credit: Onsi Fakhouri

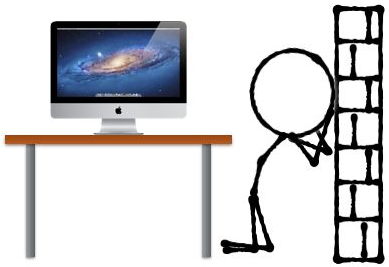


Stuck

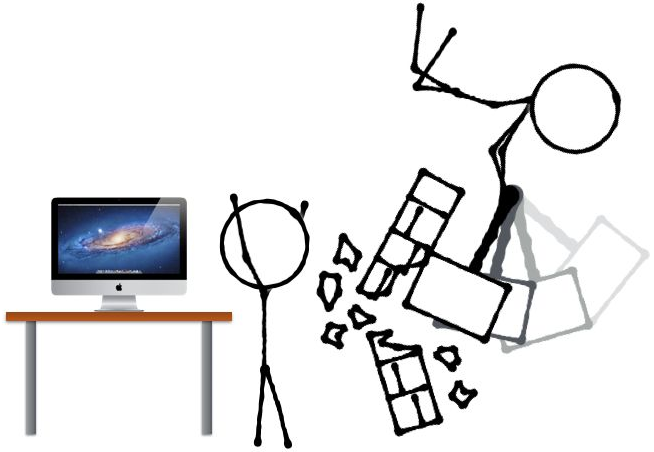


Unstuck

Credit: Onsi Fakhouri



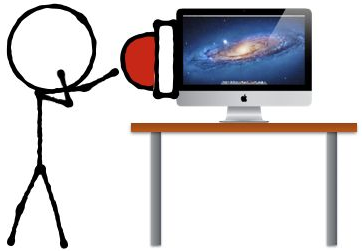
Stuck



Unstuck

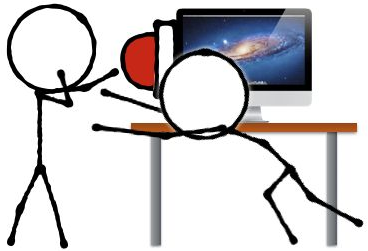
Credit: Onsi Fakhouri

Noobs



Credit: Onsi Fakhouri

Noobs



Teachers

Credit: Onsi Fakhouri

Credit: Onsi Fakhouri

Failed Attempts

- Pairing 1 hr per week, ½ day per week
- Still have your own work to get done
- No way to capture contributions or credit the pair
- Pair didn’t want to pair with you
- It’s faster by yourself
- Silent treatment

Pair Programming is hard

@nerdneha
#furtherpairingtogether
#qconsf

Goals

1. Failed Attempts
2. **Pairing @ Pivotal Labs**
3. Pair Programming & You
4. Good times
5. War Stories
6. Lessons Learned

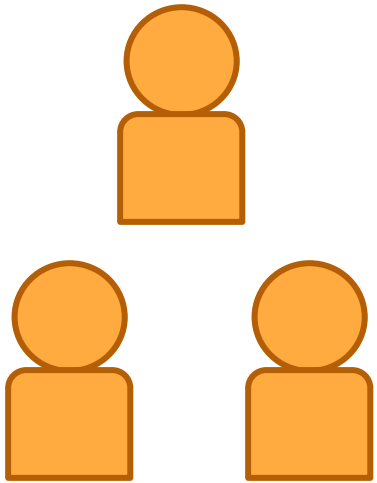
Cultural Tenets at Pivotal

Do what works

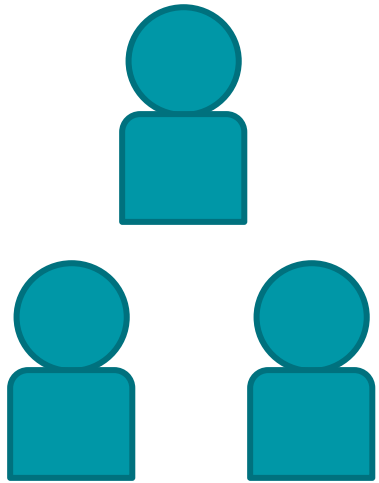
Do the right thing

Be kind

Pivotal Labs: Setup

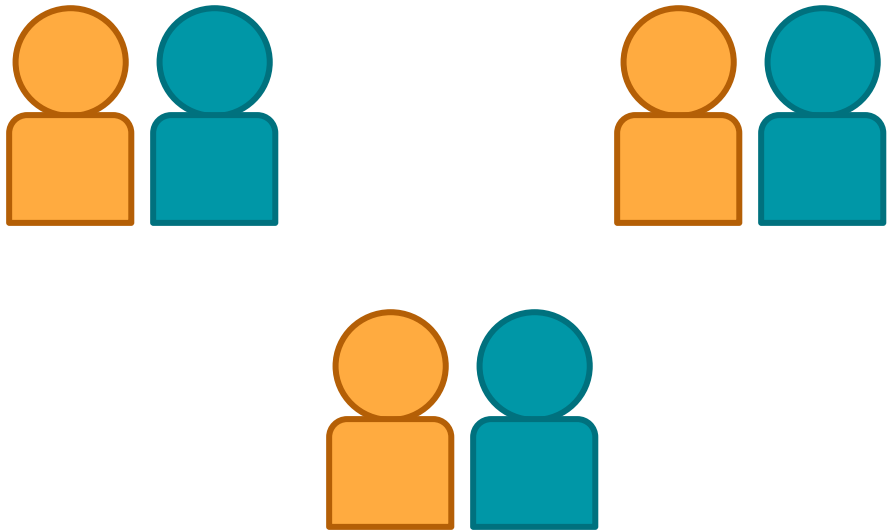


Client



Pivotal

Pivotal Labs: Setup

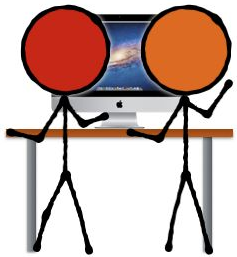


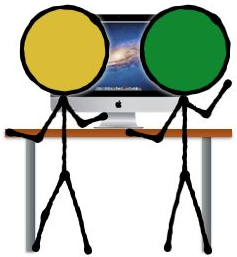
Team

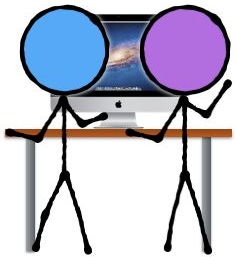
We rotate pairs

Every day

More pairs means more possible pairings







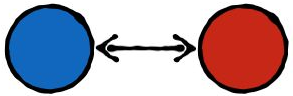
Credit: Onsi Fakhouri

We rotate pairs

Every day

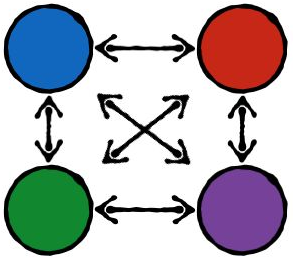
More pairs means more possible pairings

1 Pair



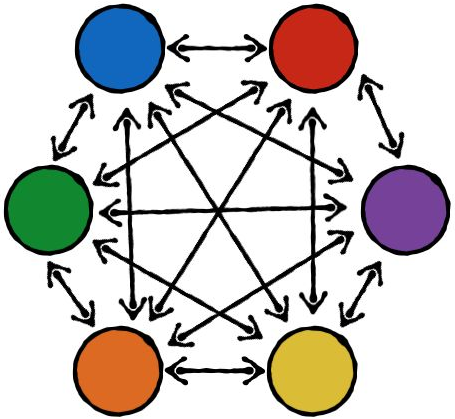
1 Pairing

2 Pairs



3 Pairings

3 Pairs



15 Pairings

Credit: Onsi Fakhouri

What's particularly unique about our culture

Pivots are well-equipped and willing to:

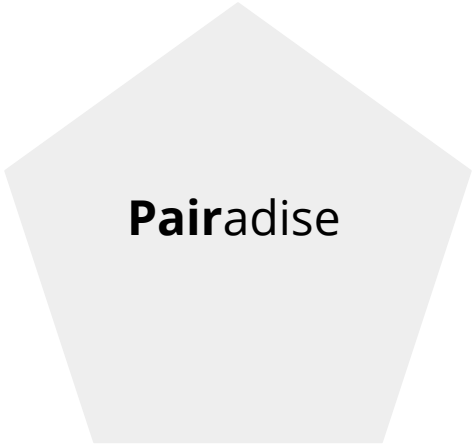
- Be vulnerable
- Be fearless
- Go slower in the short term for long term gain
- Trust that others will do the right thing
- Eliminate code and emotional silos
- Do the right thing for the team

How did we build this culture?

- TDD
- Set Schedule
- Retros & Feedback loops
- Well-written stories
- Fewer meetings
- Hiring for good pairs
- CI & CD
- Taking our Mission seriously

The big picture at Pivotal Labs

Test Driven Development



TDD & Pairing

It’s easier to agree on a test than it is to agree on an implementation

TDD + Pairing allows for balance and avoids fights

Easier to agree on a test

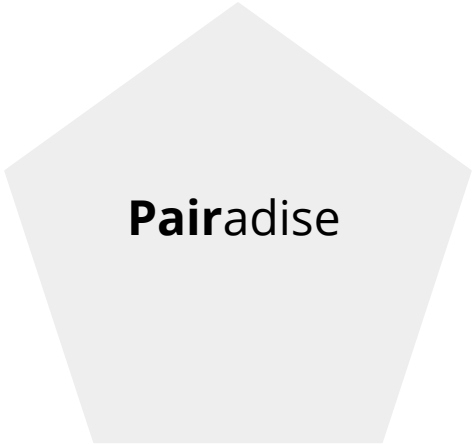
Go with the simplest implementation

Red, Green, Refactor

No pull requests/judgement day!

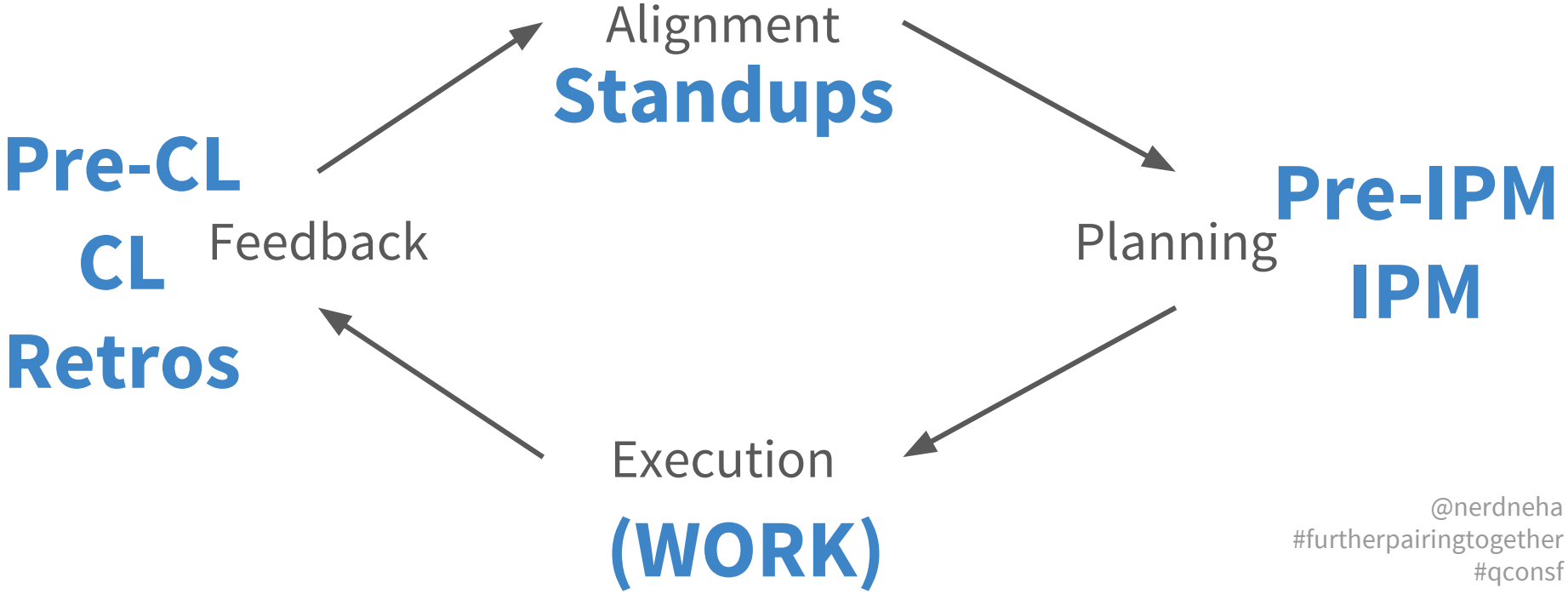
The big picture at Pivotal Labs

Test Driven Development



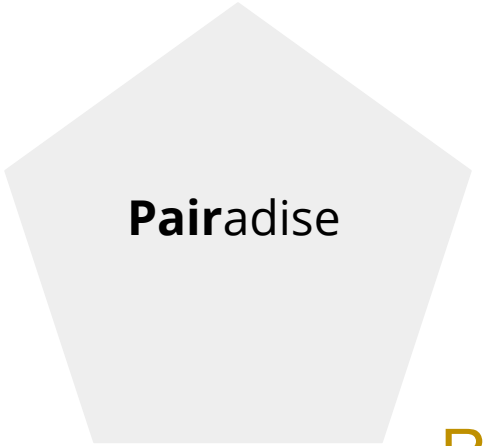
Set Schedule

Weekly schedule = Weekly iterations & feedback



The big picture at Pivotal Labs

Test Driven Development



Set Schedule

Retros & Feedback

“All life is an experiment.
The more experiments you make the better”
- Ralph Waldo Emerson

Retrospectives -- circulates feedback

Action Items

Retrospectives -- circulates feedback

Tech Retros
Parking Lot

Action Items

Daily Retros circulate feedback faster

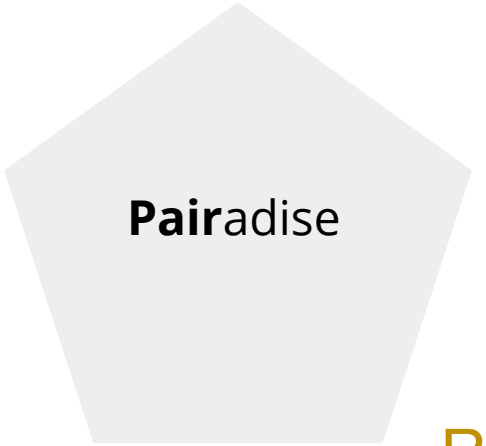
How do you think it went?

I was concerned about _____, did you feel that way?

Should we try something new next time?

The big picture at Pivotal Labs

Test Driven Development



Set Schedule

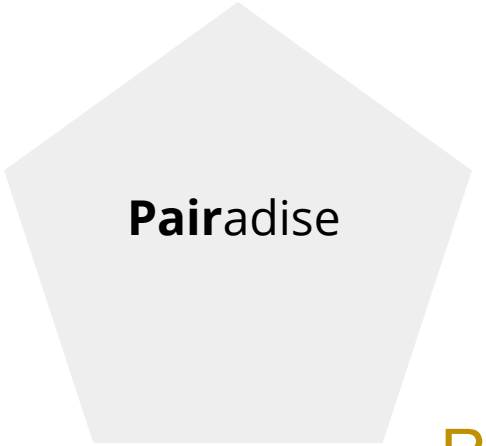
Concise, independent, prioritized stories

Retros & Feedback

The big picture at Pivotal Labs

Test Driven Development

Few Meetings



Set Schedule

Concise, independent, prioritized stories

Retros & Feedback

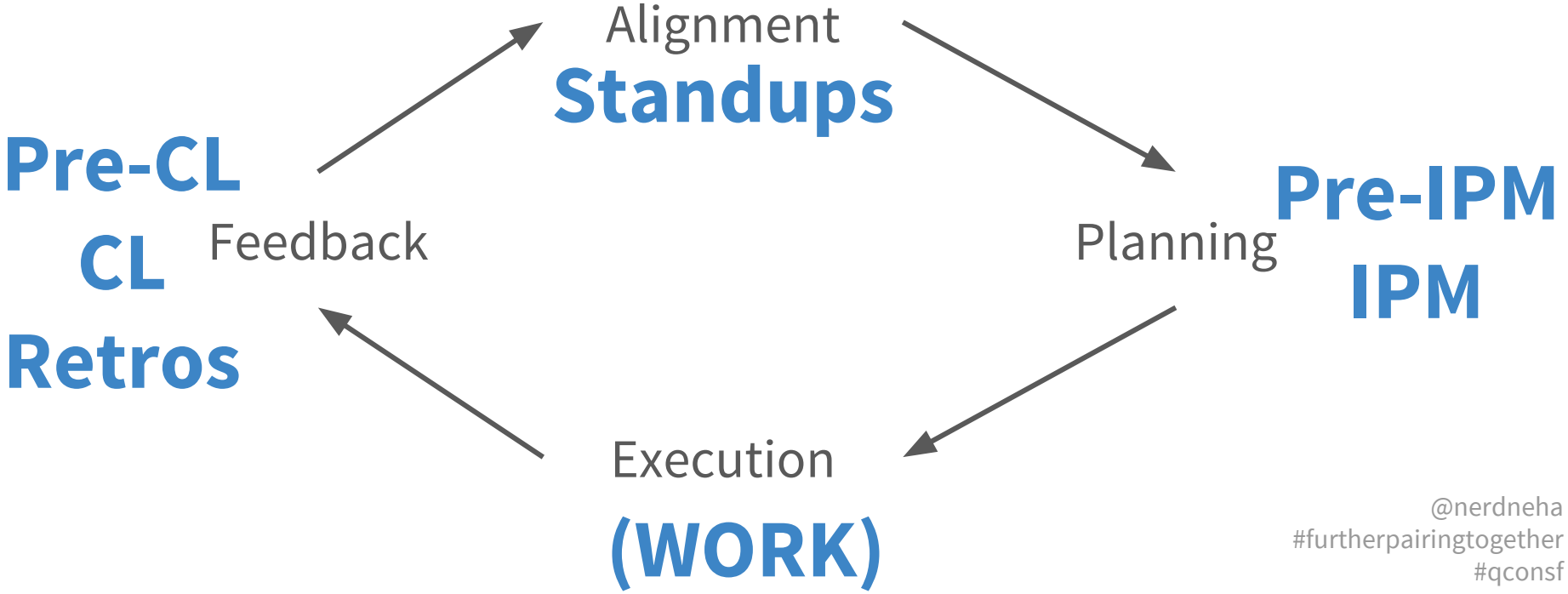
“I love spending all my time in meetings”

– No one ever

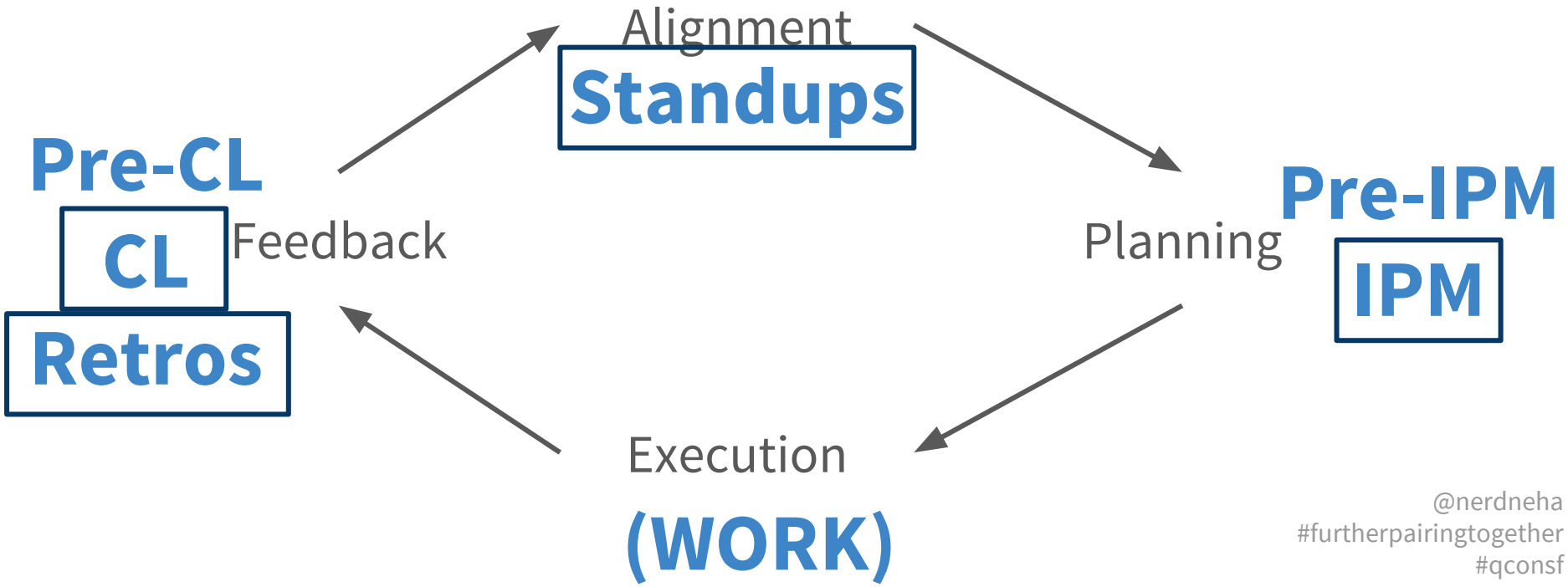
“People are happiest when people are being productive”

– Rob Mee

Weekly schedule = Weekly iterations & feedback



Weekly schedule = Weekly iterations & feedback



Talk in person / record in writing = fewer meetings

Walk over to PM

Cross functional pairing: Pair with designer or PM

Schedule check-in

Appear.in/Dedicated video

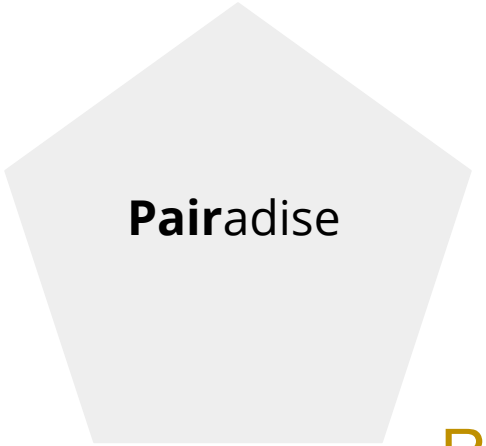
Call - Batphone

The big picture at Pivotal Labs

Test Driven Development

CI & CD

Few Meetings



Set Schedule

Concise, independent, prioritized stories

Retros & Feedback

Hiring for good pairs

Goals

1. Failed Attempts
2. Pairing @ Pivotal Labs
3. **Pair Programming & You**
4. Good times
5. War Stories
6. Lessons Learned

Best pairing conditions?

- Isolated team
- Few interruptions/meetings
- Buy-in to execute on priorities
- PM/Design resources available

How to get buy-in

- Select team with “all hands on deck” feature

Getting buy-in for Pairing:

Convince them to “experiment” for JUST ONE WEEK

How to get buy-in

- Select team with “all hands on deck” feature
- Introduce concept as an experiment
- Loop in product owner frequently
- Release early, often, and iterate

Pre*pair*. Know the opposition

“I’m exhausted, talking so much is tiring”
“Won’t the team move half as fast?”
“I don’t get much value out of it”
“[X activity] isn’t pair worthy”
“I don’t like the inflexible schedule”
“I’m always being watched”
“Hard to work with someone when you disagree”
“It’s the blind leading the blind”

Pairing setup hardware/software

- 1 computer, 2 monitors, 2 mice, 2 keyboards
- Mirror screens
- Increase your font
- Git duet-commit
- Good IDE
- Keycastr to see shortcut keystrokes

Remote pairing: GET GOOD HARDWARE

- Good Headphones
- Good Internet connection
- Set schedule, procedures, and expectations
- More explicit back & forth (ex: ping pong pairing)
- Check-in more
- Take time to build rapport
- Try for some in-person pairing at the beginning IF possible

The intangibles of Pairing

- Take turns - try ping-pong pairing or Timeout
- Take breaks -
  - Bonding: ping pong, cards (set)
  - Time apart: catch up on emails/personal life
- Ex**pair**iment - mobbing
- Keep an open mind

Pairing is like making a new friend:
It's going to be awkward

Me trying to make new friends:

Pairing is like making a new friend:
It's going to be awkward so give it some time

SORRY

Imbalanced Levels in Pairing

For the more experienced pair. You want to pair because:

- Fewer repeated questions
- Freeing you up for more complex work
- You won’t be called up on vacation

For the less experienced pair. You want to pair because:

- Learn more/faster
- Get reasoning behind methods & business context

SO
THE STUDENT BECOMES THE MASTER

Goals

1. Failed Attempts
2. Pairing @ Pivotal Labs
3. Pair Programming & You
4. **Good times**
5. War Stories
6. Lessons Learned

Good pairing looks like...

- Productivity
- Code Quality
- Project Success
  - Easy temperature on team
  - Easy to help/understand what's going on
- Happiness
- Skill growth/sharing
- Career Success

Accomplishments because of Pairing culture

- Built project in Go but don’t know Go
- Learned React
- Enable clients to transition to software engineer roles
- Rapid prototyping-user testing

Goals

1. Failed Attempts
2. Pairing @ Pivotal Labs
3. Pair Programming & You
4. Good times
5. **War Stories**
6. Lessons Learned

STOP SHOOTING IDIOT
WE ARE ON THE SAME TEAM
zipmeme

Tool chest to prevent & mitigate issues as they come up

- SWOT Analysis: what is your team's combined profile?
- Personal Goals: what do we each want out of the project?
- Inception
- Set schedule/cadence

Tool chest to prevent & mitigate issues as they come up

- SWOT Analysis: what is your team's combined profile?
- Personal Goals: what do we each want out of the project?
- Inception
- Set schedule/cadence
- Provide feedback opportunities at multiple levels
- Provide "safe haven" to get work done free from scope changes
- Have a way to collect concerns and dedicated time to discuss them

Tool chest to prevent & mitigate issues as they come up

- SWOT Analysis: what is your team's combined profile?
- Personal Goals: what do we each want out of the project?
- Inception
- Set schedule/cadence
- Provide feedback opportunities at multiple levels
- Provide "safe haven" to get work done free from scope changes
- Have a way to collect concerns and dedicated time to discuss them
- Talk in person
- Write down conversation/context
- Find a way to align first (ex: TDD + Pairing or discussing high-level)
- Daily retros

Goals

1. Failed Attempts
2. Pairing @ Pivotal Labs
3. Pair Programming & You
4. Good times
5. War Stories
6. **Lessons Learned**

What was surprising about pairing after 1 year

Pair Programming is like making friends, it takes time

You will need an extra hour or more of sleep per night

Have patience with yourself and others

You can code/ramp up with anything now

Why does Pair Programming stick at Pivotal?

- Enablement-focused
  - Nature of our projects

Why does Pair Programming stick at Pivotal?

- Enablement-focused
  - Nature of our projects
- Shared-accountability
  - Same backlog
  - IPMs point stories but emphasis on low volatility, not high velocity
  - No silos

Why does Pair Programming stick at Pivotal?

- Enablement-focused
  - Nature of our projects
- Shared-accountability
  - Same backlog
  - IPMs point stories but emphasis on low volatility, not high velocity
  - No silos
- Empowered coworkers
  - Setting the tone during Onboarding, Inception, and through Management
  - No singling out (always as pairs that change daily)
  - “No question is stupid”
  - Empathetic coworkers

Cultural Transformation: A few good apples can transform the whole barrel

Goals

1. Failed Attempts
2. Pairing @ Pivotal Labs
3. Pair Programming & You
4. Good times
5. War Stories
6. Lessons Learned

Resources on Pairing (blog: nerdneha.tumblr.com)

Extreme Programming Explained:
http://www.amazon.com/exec/obidos/ASIN/0321278658/extremeprogrammi

Pairing is more productive than soloing:
http://collaboration.csc.ncsu.edu/laurie/Papers/ieeeSoftware.PDF

Stanford Study on pairing, when and why it works:
http://hci.stanford.edu/publications/2005/pairs/PairProgramming-WhenWhy.pdf

Remote Pairing: Collaborative Tools for Distributed Development is a book by Joe Kutner
https://pragprog.com/book/jkrp/remote-pairing

Pair programming productivity: Novice–novice vs. expert–expert
http://www.cs.utexas.edu/users/mckinley/305j/pair-hcs-2006.pdf

The effectiveness of pair programming: A meta-analysis
http://www.sciencedirect.com/science/article/pii/S0950584909000123

Evaluating Pair Programming with Respect to System Complexity and Programmer Expertise
http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=4052584

Further Together: Curated Pairing Culture @Pivotal

Neha Batra
@nerdneha
#furtherpairingtogether #qconsf