The Human Element of DevOps

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Seattle Code Camp 2018 | #scc2018

Hello!

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  - Spokane, Washington
  - Bachelor's & Master's in Computer Science
  - 15 yrs as Software Engineer
  - 10 of those years as Quality Assurance
  - Most recently officially in a DevOps role
- Lead DevOps Engineer at RiskLens
- President / Founder of Future Ada

Cyber-risk quantification & management software company

501(c)(3) non-profit advocating and supporting women and non-binaries in STEAM (science, technology, engineering, art, and mathematics)

Okay… Let's talk about DevOps

First thoughts ...

- Automation
- Integration
- Monitoring
- Logging
- Continuous Integration
- Continuous Deployment

Perl

PowerShell

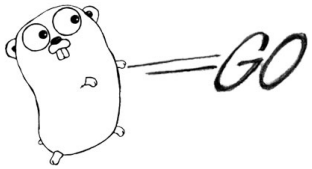
SQL

ANSIBLE

Ruby
Programming

SCRIPTING

python


GO

Groovy

puppet

BASH SHELL

CHEF

TC
docker
aws
nunit
Confluence
Jenkins
Octopus Deploy
slack
sql MONITOR
JUnit
pagerduty
New Relic
FUN TOOLS
SAUCELABS
SQL Source Control
Jira Software
Microsoft Azure
sonarqube
cucumber
Trello
Se
Visual Studio Team Services
git
GitHub
Stackify

But what IS DevOps REALLY?

Agile Manifesto

People over process and tools

Working software over documentation

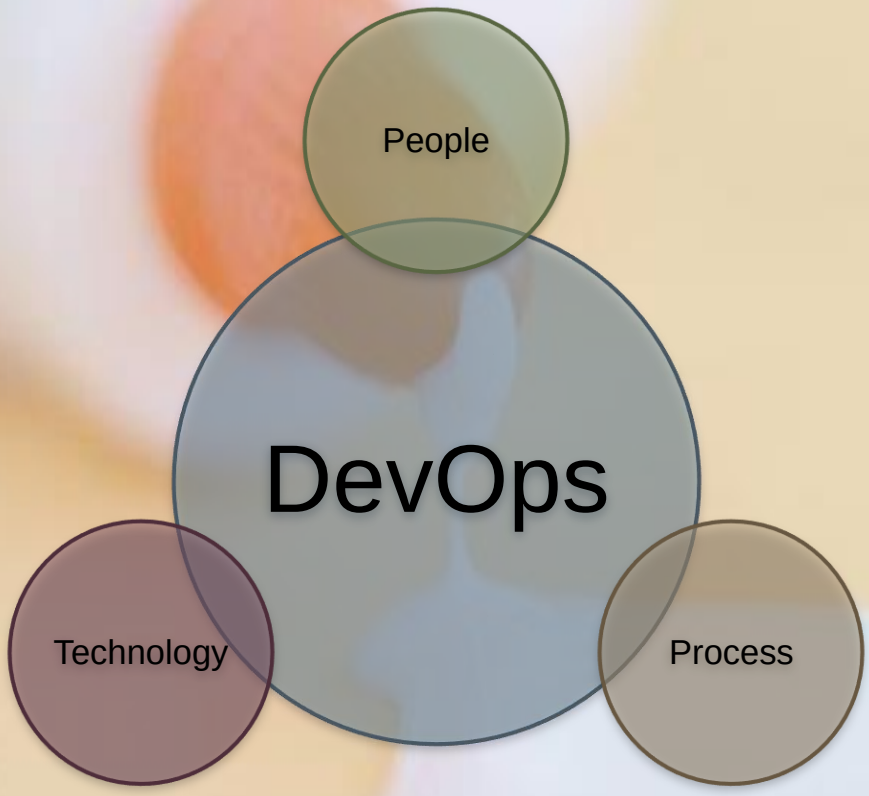
Customer collaboration over customer research

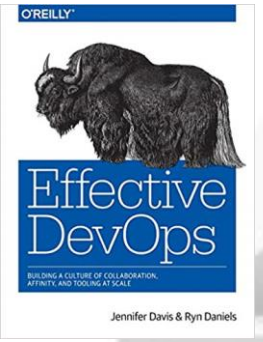
Responding to change over following a plan

http://agilemanifesto.org/

DevOps is a holistic view of software engineering with the goal to get high quality software successfully out the door

- Does not start when it's release time
- Does not stop after the software is shipped
- Not limited to the software and/or operations team(s)


People
DevOps
Technology
Process



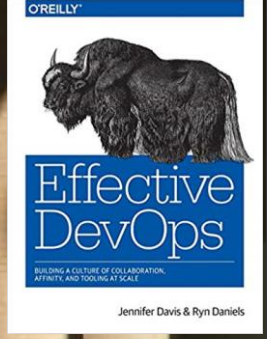
Pillars of DevOps

Collaboration

Affinity

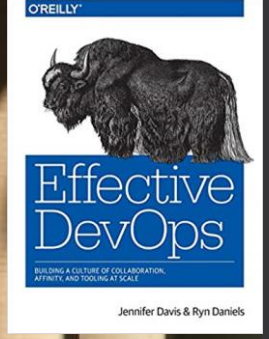
Tools

Scaling



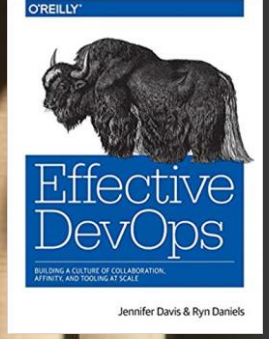
"Collaboration is the process of building toward a specific outcome through supporting interactions and the input of multiple people. A guiding principle that shaped the devops movement was the cooperation of software development and operations teams."

~ Effective DevOps



"Affinity is the process of building these interteam relationships, navigating differing goals or metrics while keeping in mind shared organizational goals, and fostering empathy and learning between different groups of people."

~ Effective DevOps



"Tools are an accelerator, driving change based on the current culture and direction. Tool choices can be perceived as easy wins. Understanding why they are wins, and their impact on existing structures, is important to prevent obscuring issues in teams and organizations."

~ Effective DevOps

TC
docker
aws
nunit
Confluence
Jenkins
Octopus Deploy
slack
sql MONITOR
JUnit
pagerduty
New Relic
FUN TOOLS
SAUCELABS
SQL Source Control
Jira Software
Microsoft Azure
sonarqube
cucumber
Trello
Se
Visual Studio Team Services
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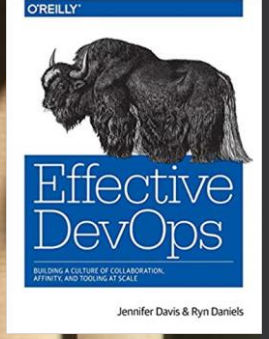
GitHub
Stackify



"Scaling is a focus on the processes and pivots that organizations must adopt throughout their lifecycles. … There are different considerations, both technical and cultural, for organizations operating at different scales…"

~ Effective DevOps

DevOps in Action

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Every Team / Company is Unique

Case Study: Credit Union

Case Study: Start Up

Necessary Skills

"Each [programmer] could be functioning more efficiently, with greater satisfaction, if he and his manager would only learn to **look upon the programmer as a human being, rather than another one of the machines**."

—Gerald Weinberg, 1971

The Psychology of Computer Programming

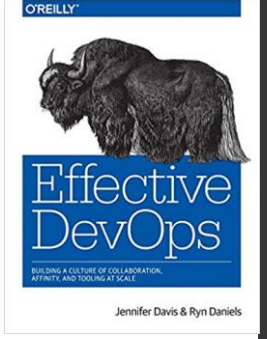
Soft Skills

- These are necessary human interaction skills
- Just as important as your tech skills
- Care about each other enough to learn to interact mindfully and effectively

COMPASSIONATE CODING

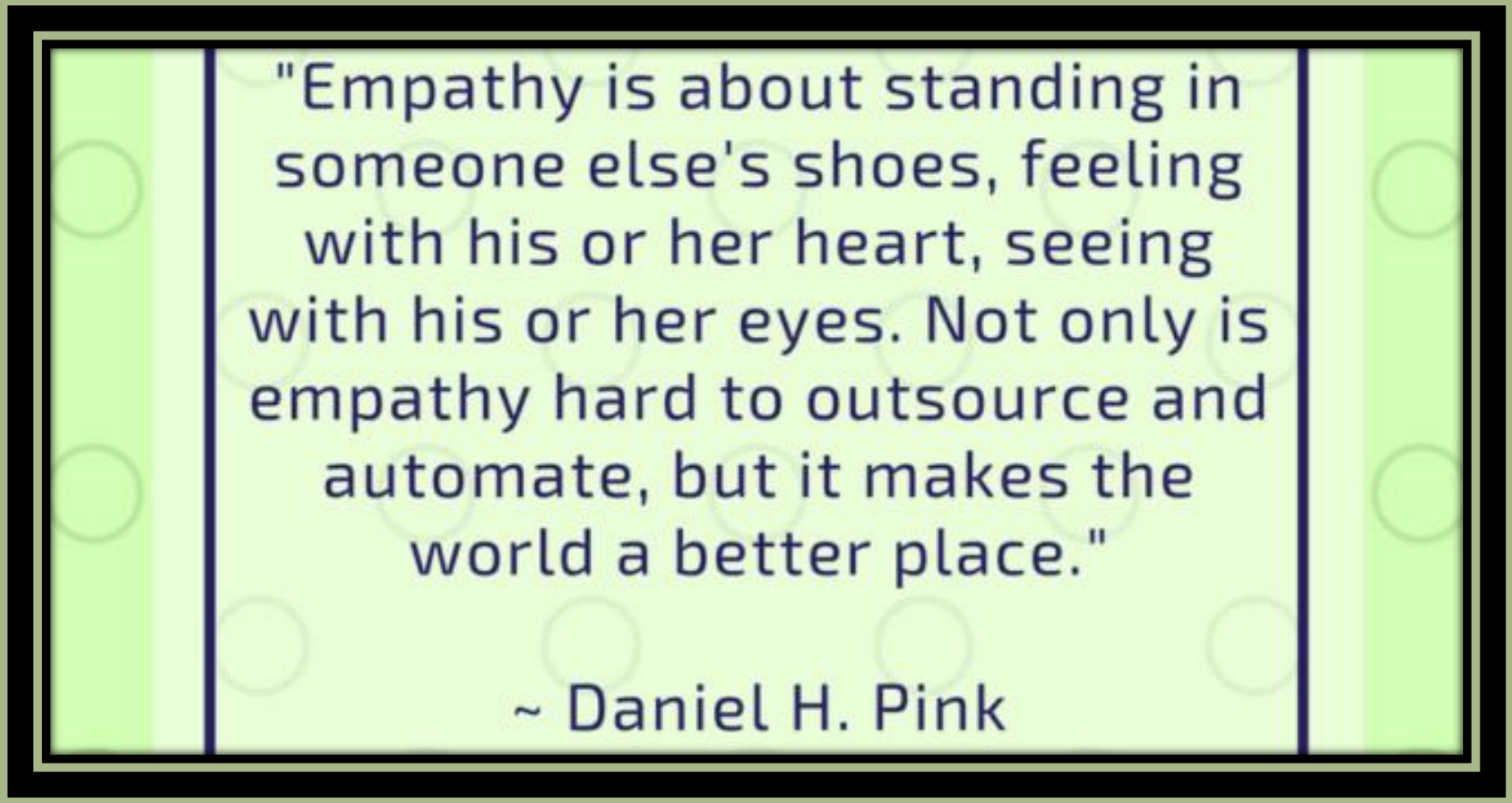
We write software to help human beings, and to write better software, we need to start caring about those human beings and their messy, illogical, and confusing *feelings*.

User Tests Will Make You a Better Developer
April Wensel



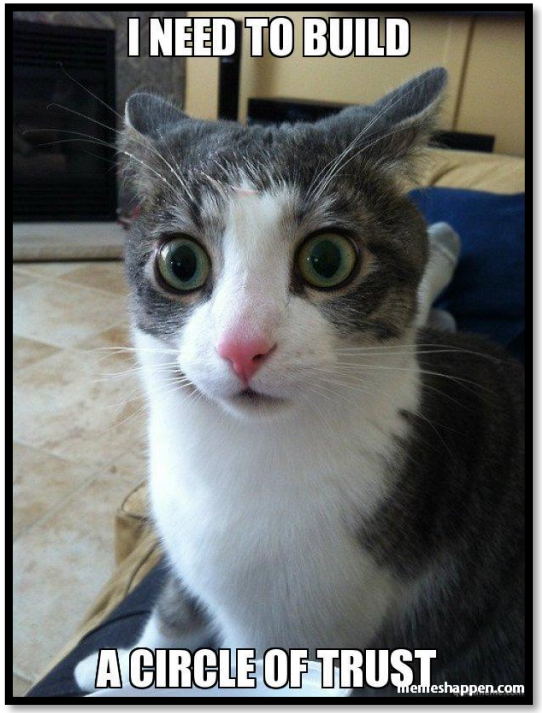
"Effective communication, in addition to being crucial for distributing information, is key to building a foundation of trust and empathy between individuals, and that foundation is what enables devops to really work."

~ Effective DevOps


"Empathy is about standing in someone else's shoes, feeling with his or her heart, seeing with his or her eyes. Not only is empathy hard to outsource and automate, but it makes the world a better place."
~ Daniel H. Pink

Empathy & Trust

- Get to know your coworkers as people
- Regularly discuss non-work related topics with coworkers
  - Family, pets, hobbies, passions, goals, etc.
- Builds trust and empathy between team members
- Better able to handle stress as a group

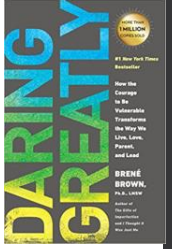


Merriam-Webster:

“sympathetic consciousness of others' distress together with a desire to alleviate it”

Compassion

- Change is hard… have compassion for your colleagues as changes are implemented
- Stay in tune with how your team members are reacting to the changes
  - Do we need to slow down the changes?
  - Do we need to have extra conversations to walk them through a specific change?
  - Is there an extra tool you can implement to make the transition easier for someone?



Eliminate Blame & Shame

“Shame can only rise so far in any system before people disengage to protect themselves. When we’re disengaged, we don’t show up, we don’t contribute, and we stop caring.”

~ Brené Brown, Daring Greatly

Teamwork & Cooperation

- Play nice with others on your team and beyond
- Empower the ideas from others
- Encourage conversation and questions so everyone can learn and be on the same page
  - No dumb questions
- Focus on the team and the work vs individuals
  - Extra important when mistakes and/or failures (a.k.a. “learning opportunities”) happen
  - Team succeeds together
  - No lone wolves
  - No “cowboys”

Growth Mindset

- Term coined by Dr Carol Dweck
- Believe that **you** can learn the skills you need to do the job
- Believe that **others** can learn the skills they need
- Provides confidence to learn and to take necessary risks to create positive changes
- Provides confidence to handle failure

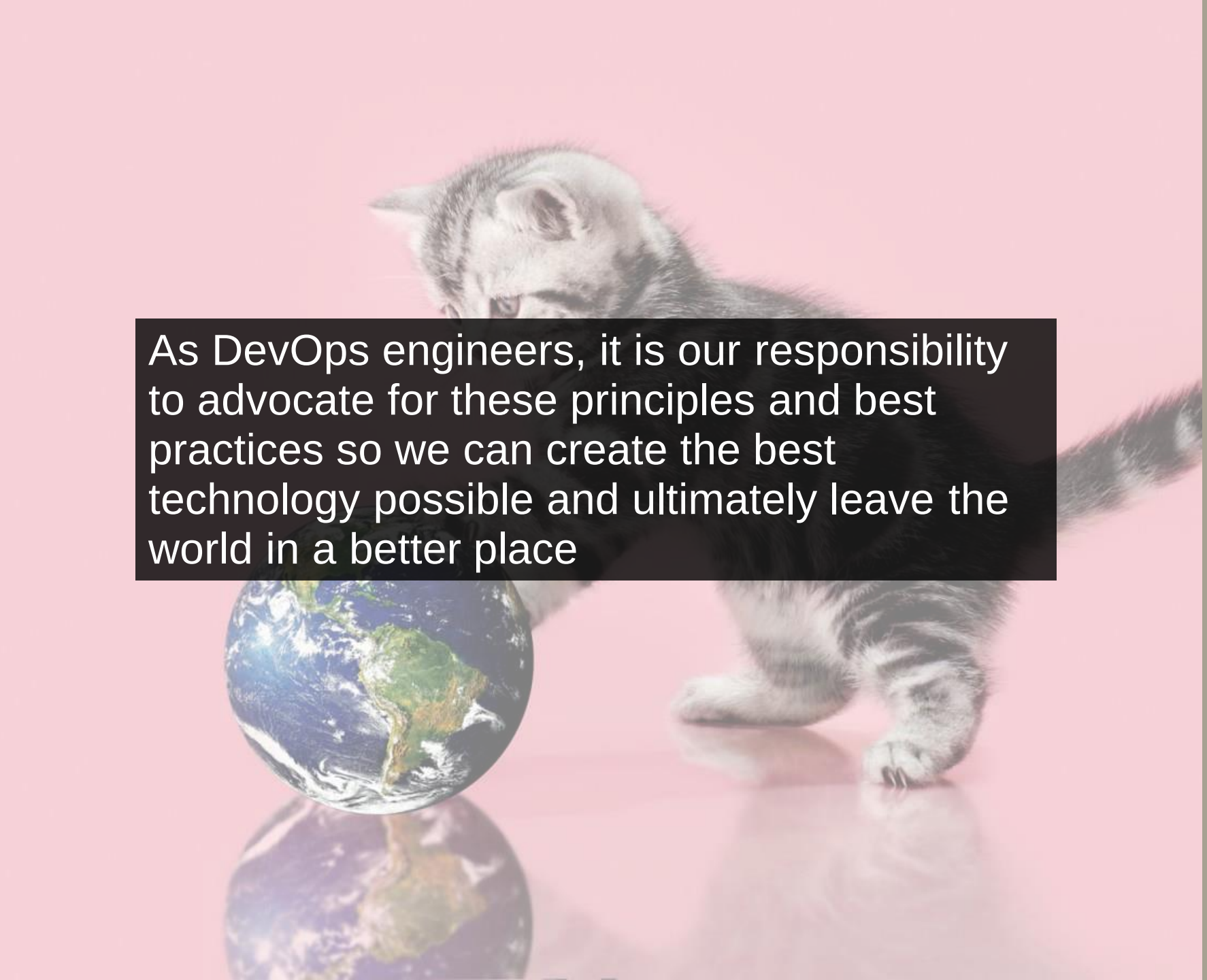
A Growth Mindset Drives Motivation and Achievement
I can get smarter
Learning is my goal
Effort makes me stronger
I'd spend more time and work harder
Higher Achievement
Blackwell, Trzesniewski & Dweck (2007) Child Development

Wrap Up

DevOps…

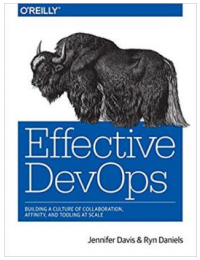
- Helps facilitate change via technology & process
- Helps create the *correct change* at the *correct time*
- ***Helps people through change***

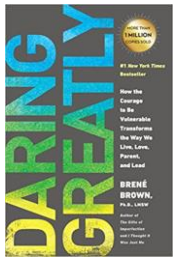
DevOps is the solution to creating a more diverse, inclusive, welcoming, and compassionate tech industry which will generate more inclusive tech for our diverse and ever complex world

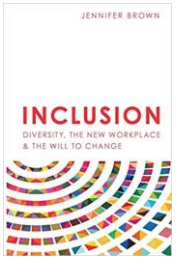


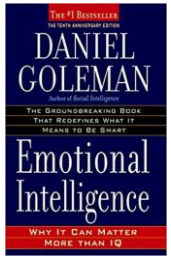
As DevOps engineers, it is our responsibility to advocate for these principles and best practices so we can create the best technology possible and ultimately leave the world in a better place

Learn more





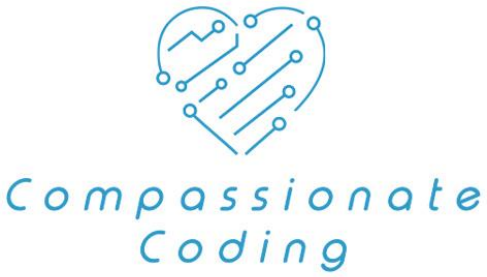




- Effective DevOps: Building a Culture of Collaboration, Affinity, and Tooling at Scale by Jennifer Davis and Ryn Daniels
- Daring Greatly by Brené Brown
- Inclusion: Diversity, The New Workplace & The Will To Change by Jennifer Brown
- Emotional Intelligence: Why It Can Matter More Than IQ by Daniel Goleman

And even more!

- Compassionate Coding https://compassionatecoding.com/
- Emotional Intelligence for Engineers by April Wensel from ngAtlanta 2018 https://www.youtube.com/watch?v=SJnVhkEx8Cs



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Thank you!