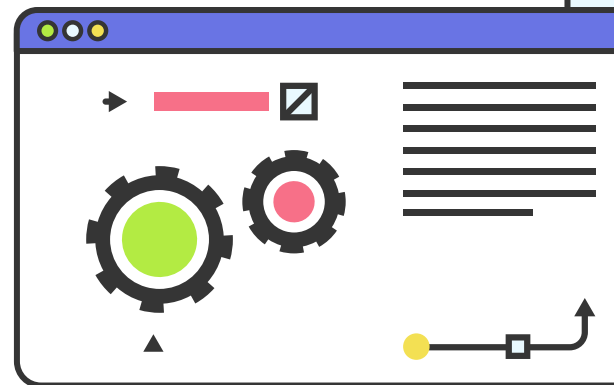
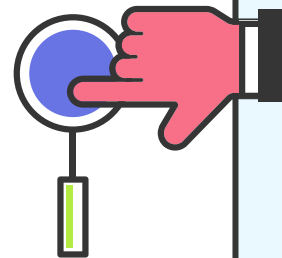


SPACE & DORA: Working Together

Nicole Forsgren, PhD
Partner, Microsoft Research



Today

× 01

DORA

× 02

Signal &
Action

× 03

SPACE

× 04

Future

Hi!
I'm Nicole



DevOps was the original hipster for making work more productive *and* sustainable



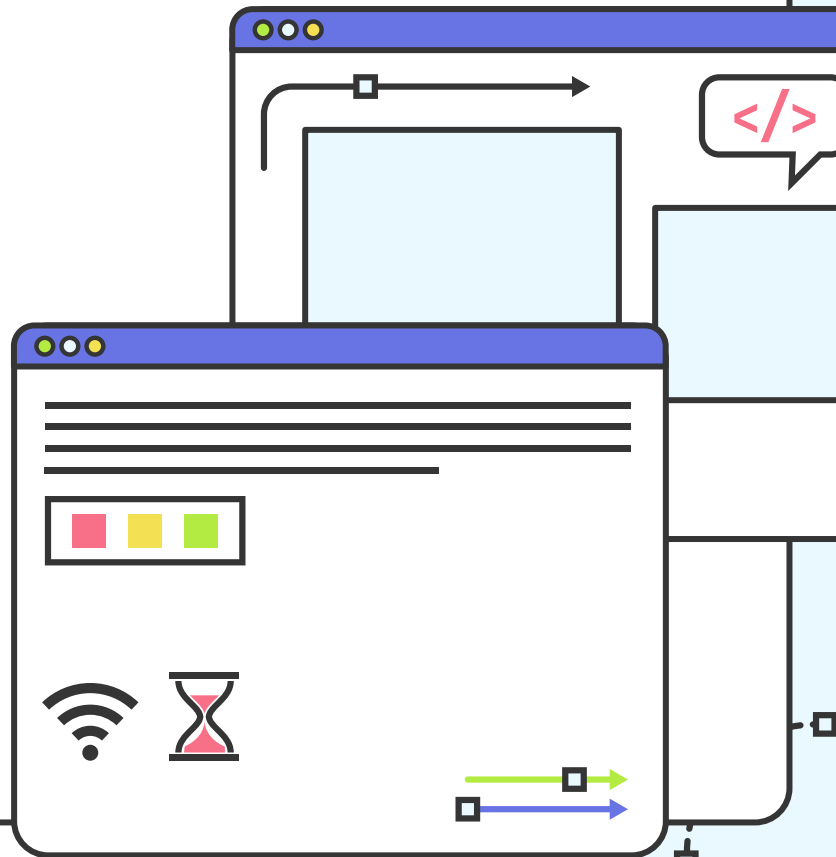
DevOps was the original hipster for making work more productive *and* sustainable

DORA and SPACE help us understand, measure, and improve our productivity and our well-being.



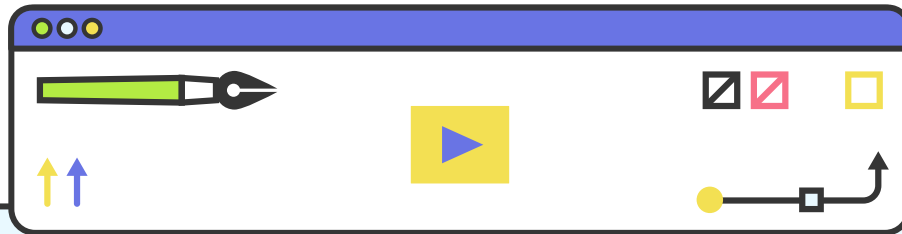
X 01

DORA



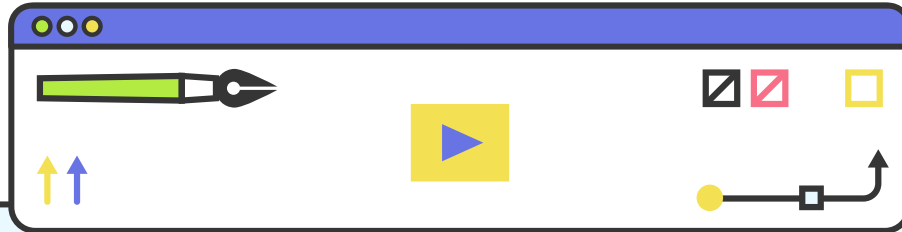
What is DORA for?

benchmarking



What is DORA for?

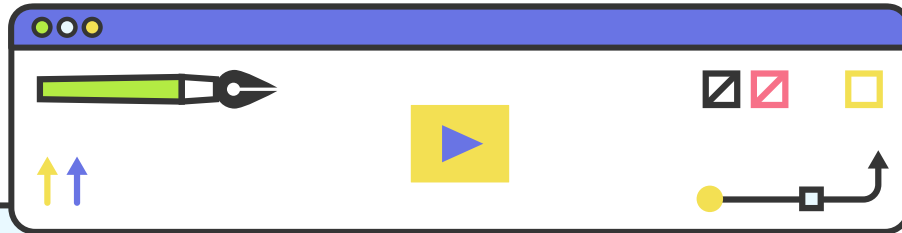
benchmarking



What is DORA for?

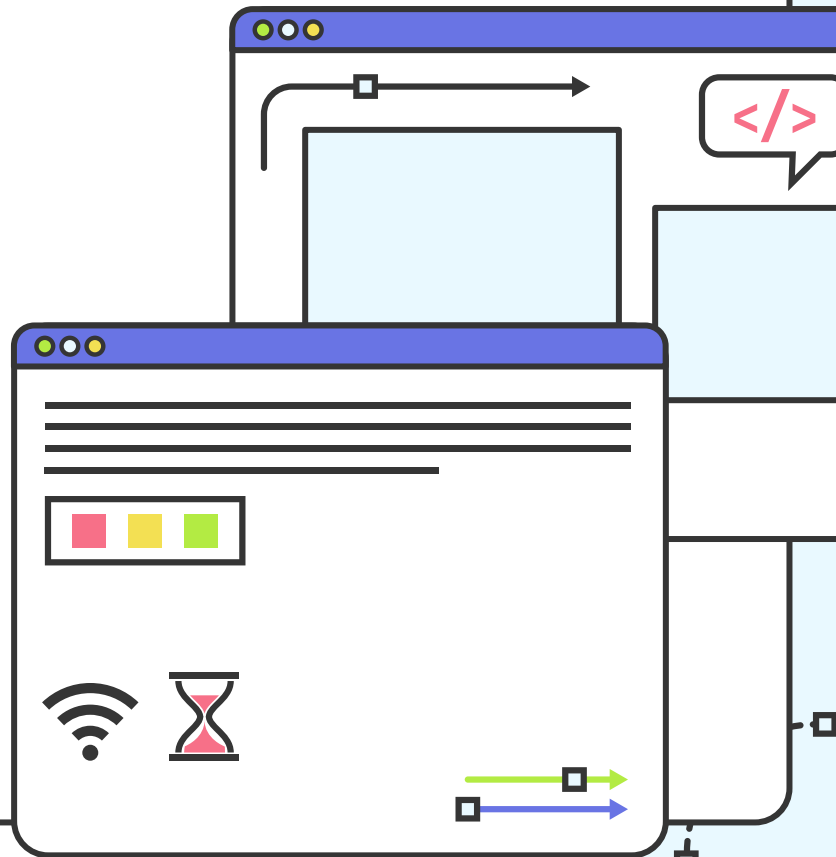
framework that helps us:

- improve outcomes
- measure performance
- identify capabilities for improvement (and provide evaluative criteria)



x 02

Signal & Action





Signal

How am I doing?



Action

What can - and
should - I do
to improve?

DORA as Signal and Action



**SIGNAL: DORA
metrics**

→ How well can my team develop and deliver software?



ACTION: What capabilities should I focus on to improve my software delivery?

Can identify using DevEx methods, value stream, or others.

dora.dev Quick Check

Your software delivery performance

Your performance:

22



You're performing better than 22% of 2022 [Accelerate State of DevOps](#) survey respondents.

Take the Quick Check from other research years: [2019](#) [2021](#) [2022](#)

[NEXT STEPS](#)

[PERFORMANCE COMPARISON](#)

What's holding you back?

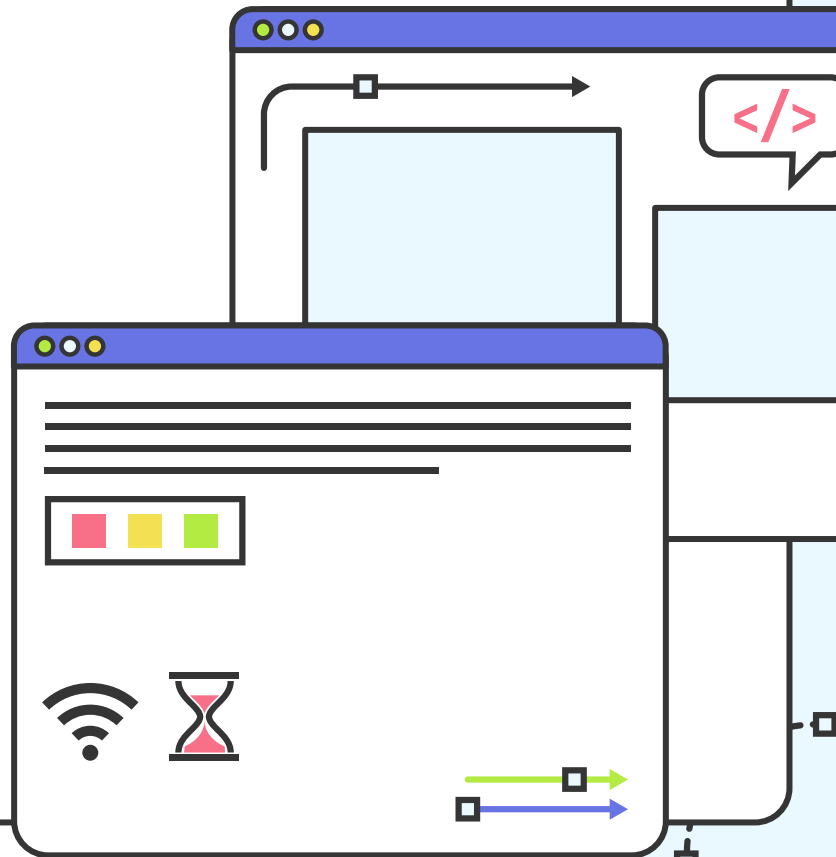
In our [research](#), DORA has identified several key capabilities which drive higher software delivery and organizational performance. Improving these technical, process, and cultural capabilities can help your team deliver more value to your customers and organization. It's important to focus your efforts on the specific thing that is currently holding you back. While every team will take a different path, we have identified three capabilities that are often beneficial to improve: **Continuous Integration, Loosely Coupled Architecture, and Generative Organizational Culture.**

[Help Me Prioritize](#)

Complete a brief survey for each of these three capabilities to determine how you perform and which to consider focusing on first.

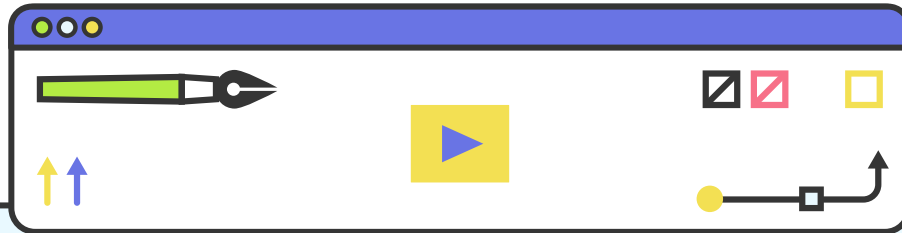
X 03

SPACE metrics



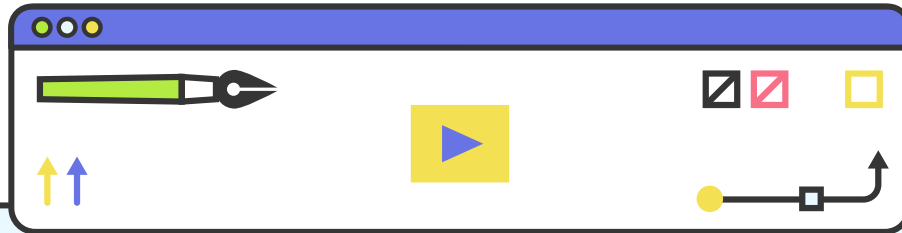
What is SPACE for?

one set of metrics for
everything



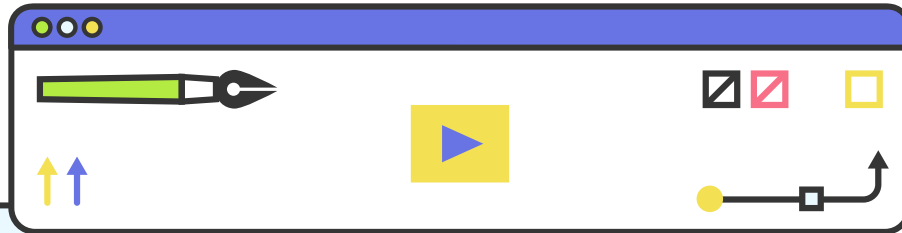
What is SPACE for?

~~one set of metrics for
everything~~



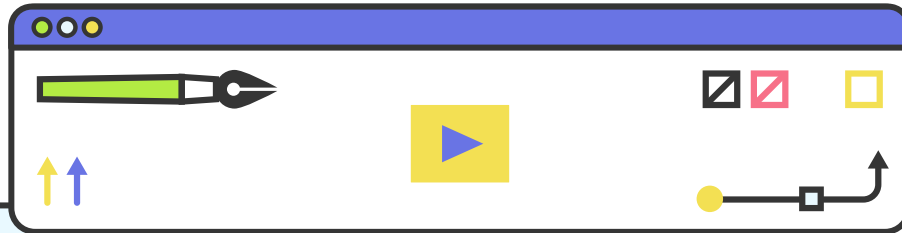
What's it for?

framework to think about how to measure productivity (or any complex, creative work)



SPACE & DORA are complementary

Once you've identified the capabilities you want to improve (using DORA), you can use SPACE to identify how you want to measure them



More on SPACE:

it IS

complementary to DORA

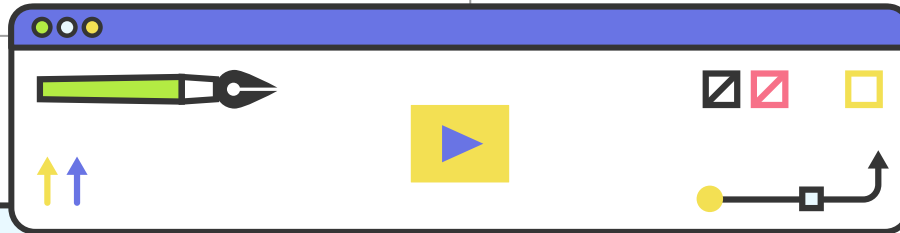
a framework used to identify metrics appropriate for a situation or goal

more broad than DORA (e.g., can be used for sales teams or copywriters)

it is NOT

an evolution of DORA; they each serve their purpose

a set of prescribed metrics



The SPACE framework

A holistic way to measure productivity

dimension	definition
S: Satisfaction and Well-being	How fulfilled, happy, and healthy one is
P: Performance	An outcome of a process
A: Activity	The count of actions or outputs
C: Communication and Collaboration	How people talk and work together; how systems talk and work together
E: Efficiency and Flow	Doing work with minimal delays or interruptions

<https://queue.acm.org/detail.cfm?id=3454124>

Applying SPACE to Incident Management (1 of 2)

dimension	example metrics
S: Satisfaction and Well-being	how satisfied SREs are with the IM process, escalation and routing, and on-call rotations are key metrics to capture, especially since burnout is a significant issue among SREs.
P: Performance	these measures focus on system reliability; monitoring systems' ability to detect and flag issues faster, before they hit the customer and become an incident. MTTR (mean time to repair) overall, and by severity.
A: Activity	number of issues caught by the monitoring systems, number of incidents created, number of incidents resolved—and their severity distribution.

Applying SPACE to Incident Management (2 of 2)

dimension	example metrics
C: Communication and Collaboration	people included in resolving the incident, how many teams those people came from, and how they communicate during an incident. Incident resolution documentation outlines the steps involved in resolving incidents; this can be measured by completeness (to check if any resolution data was entered) or quick quality scores (e.g., thumbs up/down). Teams may also include a metric that measures the percentage of incidents resolved that reference these guides and documentation.
E: Efficiency and Flow	incident handoffs, incident assignment/re-assignment, number of hops an incident has to take before it is assigned to the right individual or team.

Applying SPACE to Testing (1 of 2)

dimension	example metrics
S: Satisfaction and Well-being	how <i>satisfied</i> testers and/or developers are with: the tools available to them for testing, the test suite, test times, manual testing support and visibility
P: Performance	these measures focus on testing performance and reliability; test suite times/ flakiness
A: Activity	number of issues caught by the tests, number of tests run, number of tests automated, proportion of automated tests run on the delivery pipeline, number of tests skipped, number of bugs hit/missed by the test suite - overall and by severity

Applying SPACE to Testing (2 of 2)

dimension	example metrics
C: Communication and Collaboration	test documentation describes the steps to run automated tests. manual test documentation describes the defect and the steps involved to recreate. this can also include system calls and APIs for tests.
E: Efficiency and Flow	number of times a test suite is run before completed successfully; time spent fixing acceptance test failures; interruption statistics for testers doing work

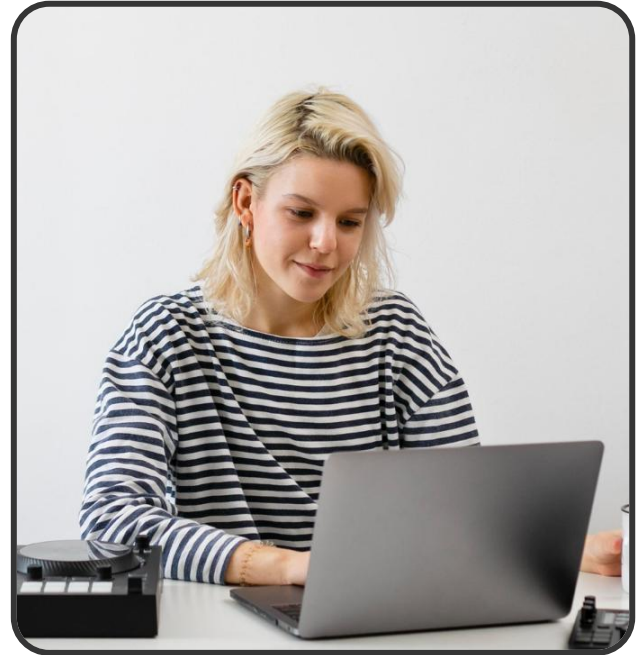
DORA as SPACE (for software delivery)

Criteria: Have metrics across at least 3 of the 5 dimensions for a given focus area; this covers dimensions for software delivery.

DORA Metric	SPACE Dimension
Lead time	Efficiency and flow
Deploy frequency	Activity
MTTR	Efficiency and flow
Change fail rate	Performance
Availability <i>(some like to include this as well)</i>	Performance

SPACE for Devs: Good Day Project

We did a study to help developers get quick and easy signals and patterns to help them have better days, more consistently. (“What makes a good day, and how can I have one more often?”)



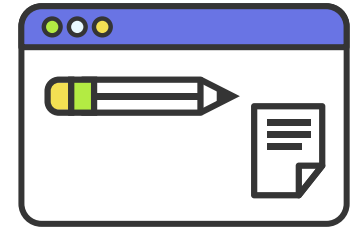
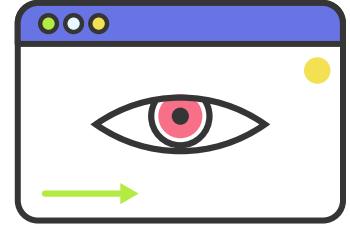
<https://github.blog/2021-05-25-octoverse-spotlight-good-day-project/>

Good Day Project

To capture SPACE quickly, we asked questions like:

- How was your work day?
- I worked with other people
- My work was interrupted
- How many meetings did you have today?
- Today, I felt most productive... (and least productive)

[the full instrument is available online!]



<https://github.blog/2021-05-25-octoverse-spotlight-good-day-project/>

Finding flow is key, and interruptions are a drag

Minimal or no interruptions give developers:

82%

chance of having a good day



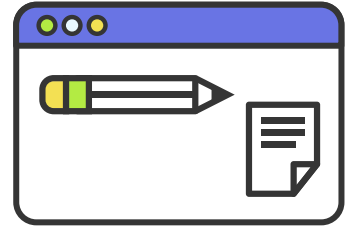
Interruptions throughout the day:

7%

chance of having a good day

Two minute daily reflection can help improve our days

- Developers liked the quick check-in as a way to reflect
- As a nice bonus: a wrap-up at the end of the day
- This echoes an earlier Daily Gratitude study

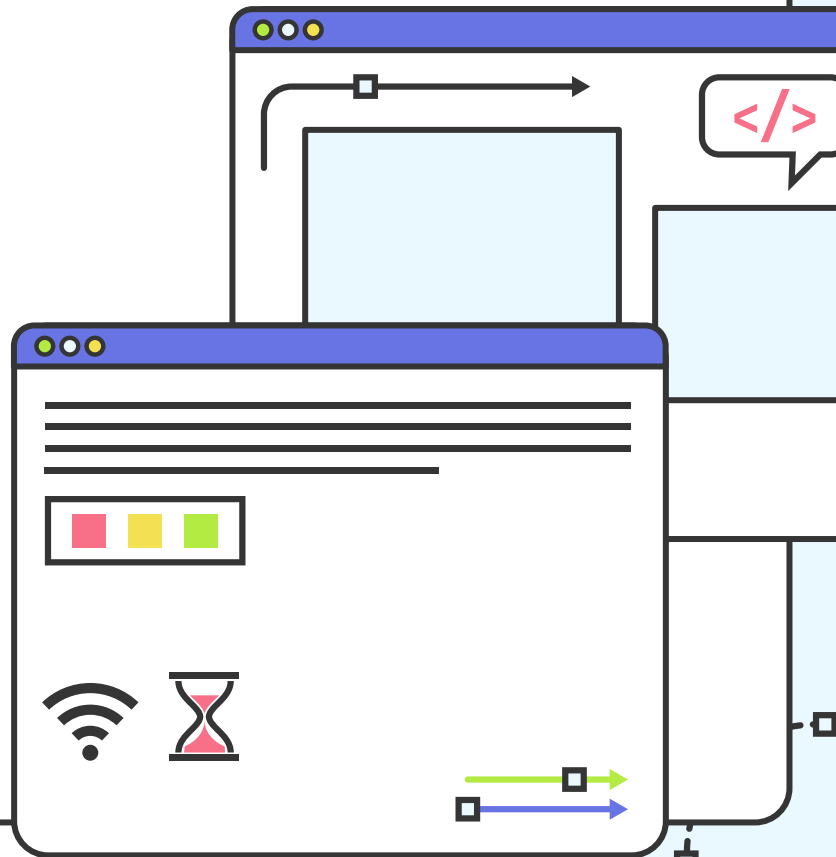


For more info, including the survey questions and example reports, check out

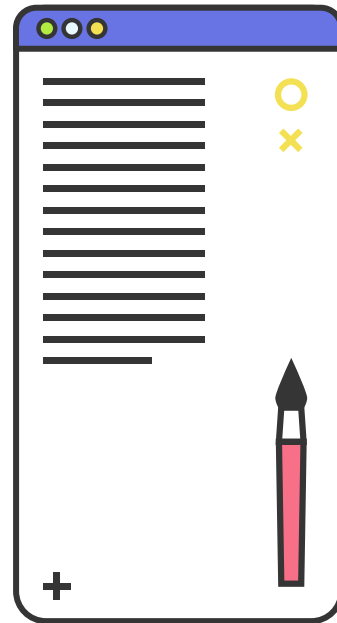
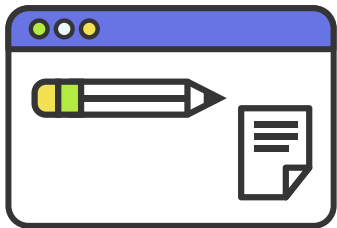
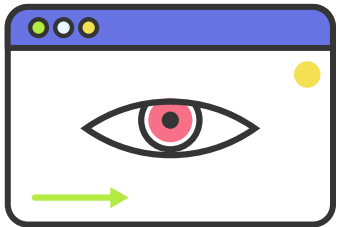
<https://github.blog/2021-05-25-octoverse-spotlight-good-day-project/>

x 04

Future of DORA



What's next?





I lost my crystal ball... but DORA's past and present work is aligned with the latest "trends":

- DevEx
- Reliability and security
- Effectiveness and efficiency
- Culture
- "Reimagining" people into DevOps – it's not just tools!

DORA team

The strength of DORA is **research** and **community**.



DORA team



The strength of DORA is **research** and **community**.

There's no one better to lead this effort than **Nathen Harvey**. He has deep expertise in the research and in transformations. I've worked with him since I started this work and am so grateful for his expert guidance in the research program and the community work.

Let's shout out the research team. **Dustin Smith** was PI in '21-'22, and now **Derek DeBellis** for '23.

DORA team



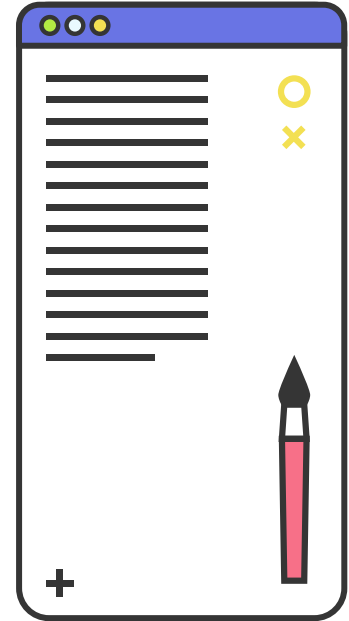
The strength of DORA is **research** and **community**.

There's no one better to apply, test, ground this research and discover new patterns than **all of YOU**.

You are the heart of this work, you test and try it, you ask hard questions, you champion it. I am so grateful to each and every one of you for being part of DORA.

TL;DR:

- We can improve our work, and **use data to help us**
- We need to use both **signal and action**
- **DORA and SPACE are complementary** frameworks that can help us think holistically about our systems
- Frameworks like DORA and SPACE can help us **improve both systems and how people work**



Thanks!

Do you have any questions?

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