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DIAMONDS WITH FLAWS

Examining the Pressures, Realities, and
Future of Site Reliability Engineering

NOBL 



Embracing Risk



Embracing Failure



Diminishing Returns



*“The best is the
enemy of the good”*

-Voltaire



“Give them the third best to go on with; the second best comes too late, the best never comes.”

-Robert Watson-Watt



“If you never miss a plane, you’re spending too much time at the airport.”

-George Stigler



*“Premature optimization
is the root of all evil”*

-Donald Knuth



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Don't listen to me
(maybe)



Pressures
Realities
Future

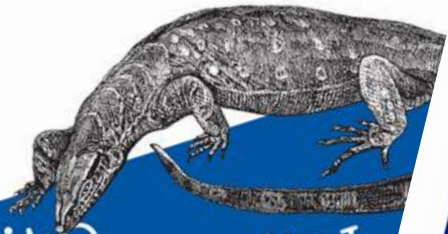


What is SRE?

What is SRE?

- Honestly I don't know anymore

O'REILLY



Site Reliability Engineering

HOW GOOGLE RUNS PRODUCTION SYSTEMS

Edited by
Jenn.

O'REILLY



The Site Reliability Workbook

Practical Ways to Implement SRE

Edited by Betsy Beyer,
Niall Richard Murphy, David K. Rensin,
Kent Kawahara & Stephen Thorne

O'REILLY

Implementing Service Level Objectives

A Practical Guide to SLIs, SLOs & Error Budgets



Alex Hidalgo

What is SRE?

- DevOps?
- Production Engineering?
- Technical Operations?
- Platform Engineering?



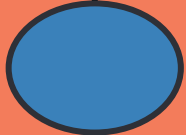
Maybe it doesn't
matter.



SRE is too many things.

Part 1:

• The Pressures of SRE



What do SREs do?

Let's ask Twitter!!

Things SRE Do: The List

- SLOs/SLAs
- Monitoring
- Alerting
- Capacity Planning
- CI/CD
- Release Engineering
- Infra Deployment
- Systems Maintenance
- Operations
- Disaster Recovery
- Compliance
- Build Dev Tooling
- Build Ops Tooling
- Be On-call
- Identify Toil
- Reduce Toil
- Automate Things
- Product Architecture
- Code Instrumentation
- Chaos Engineering
- Cost Analysis
- Risk Assessment
- Risk Analysis
- Failover Management
- Design Dashboards
- Cry



Incidents

- Response
- Mitigation
- Management
- Investigation
- Retrospectives
- Learning

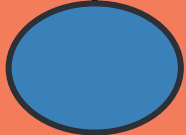


Reviews

- Design Docs
- Production Readiness
- Launch/Release
- Scaling Plans

Cultural

- Make it safe to ask questions
- Make it safe to be wrong
- Make it safe to make mistakes
- Be blameless
- Be risk-receptive
- Be resilient
- Be the ones to say “no”



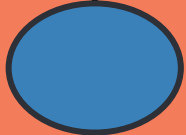
What do SREs do?

“It depends.”

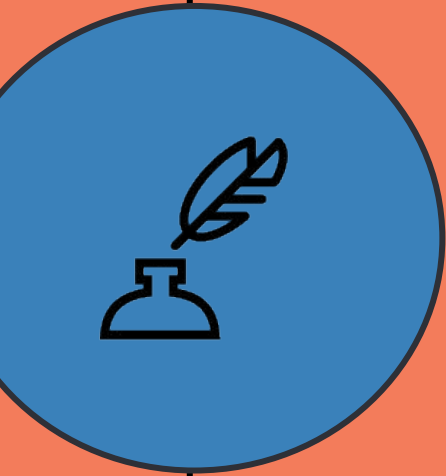


What do SREs do?

“Turn it off and back on again.”

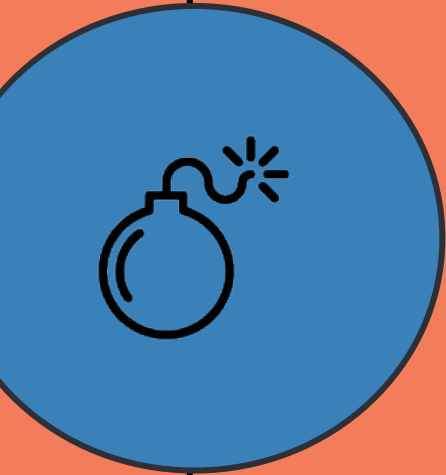


What do SREs do?
“Complain about MTTX on
Twitter.”




“Anything Developers or Product Management don't want to do”

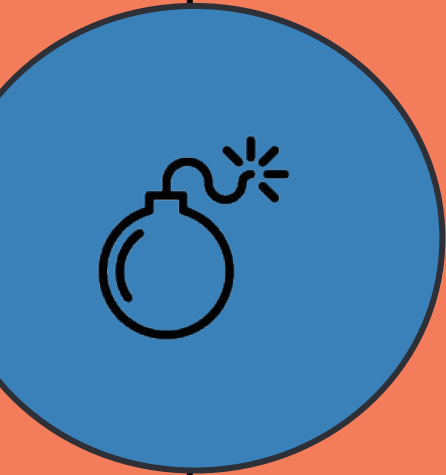
-Mark Swanborough
@MarkSwanb



That is a lot of stuff.



For each item on our list,
someone, somewhere
has confidently stated
that they have solved
the problem.

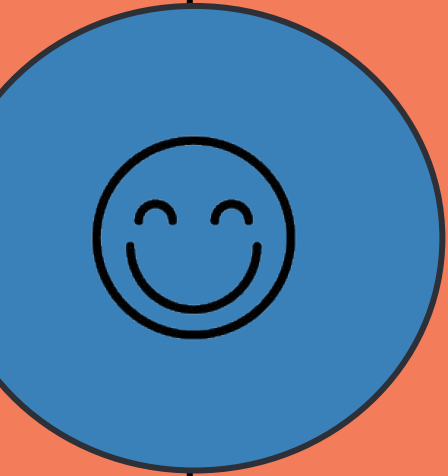


This can be dangerous.

Best

Practices/Processes/Technologies

- Someone identifies a problem
- This person solves the problem



So proud of their
solution!

Solution is Codified

- Sometimes literally code, but also:
 - A white paper
 - A blog post
 - A book
 - A really good tweet
 - A conference talk

Gotta Do All the Things!

- SLOs/SLAs
- Monitoring
- Alerting
- Capacity Planning
- CI/CD
- Release Engineering
- Infra Deployment
- Systems Maintenance
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Best

Practices/Processes/Technologies

- Someone identified a problem
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Best

Practices/Processes/Technologies

- Someone identified a problem
- This person solved **their** problem



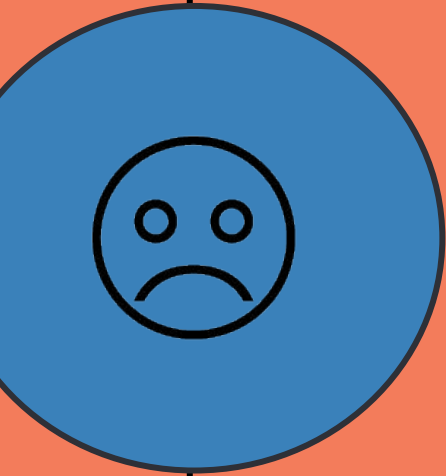
*But it's never just one person. Or
vendor. Or process. Or philosophy. Or
technology. Or...*



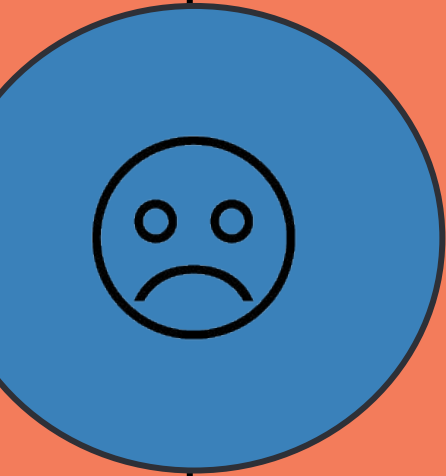
**SO MANY THINGS.
SO MANY OPTIONS.**



“We’re not doing 10 deploys per day and we don’t have the newest observability tooling and our postmortems aren’t really blameless and we aren’t using the coolest programming language and...”



This causes people to
feel pressured.



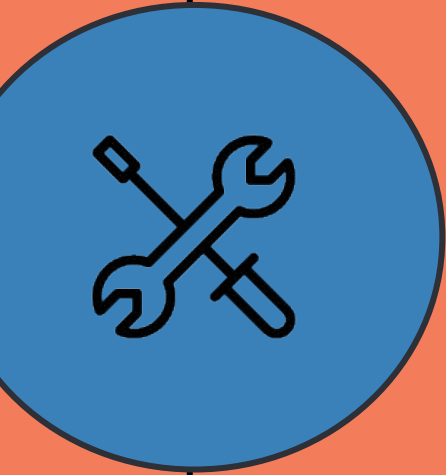
This causes people to
feel bad.



Part 2: The Realities of SRE



Every organization is
different



You probably don't
have to do all the
things



“We’re not doing 10 deploys per day and we don’t have the newest observability tooling and our postmortems aren’t really blameless and we aren’t using the coolest programming language and...”



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“We’re not doing 10 deploys per day and we don’t have the newest observability tooling and our postmortems aren’t really blameless and **we aren’t using the coolest programming language** and...”

- But why not *try* to do all the things?

- Because we're not all Google.
(or Facebook or Amazon or Microsoft or...)



Team Size

- **Service Size/Shape**



Org Maturity



Time



Finances



Compliance

- Leadership Buy-in

- Lack of Ownership



Every organization is
different



Every organization is
unique



FAANG < 1%



“Should you move to serverless? Is GraphQL the answer to your API woes? Should you follow the latest DevOps playbook to increase your system reliability? In the world of tech tools, there’s a lot of buzz. But it doesn’t always reflect the daily reality of programmers.”

-Jean Yang


<https://future.com/software-development-building-for-99-developers/>



This is true of SRE
now as well

SRE in 2022

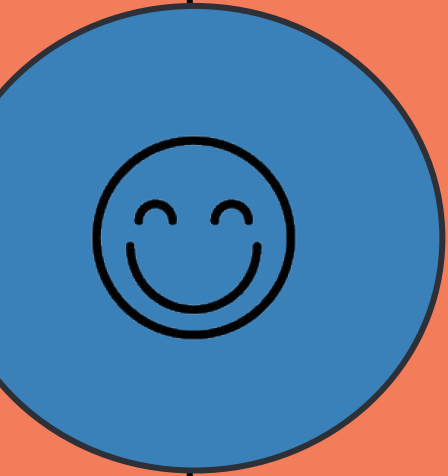
- Used to only be found at the largest companies
- Is now everywhere
- Can't define the role in the same way everywhere anymore



Part 3: The Future of SRE



Easier said than done,
but...



It depends!



Just kidding



Be *meaningful* in
your decisions and
choices



Adopt the right
processes and
technologies for ***you***



Ensure ***your*** needs
are being met



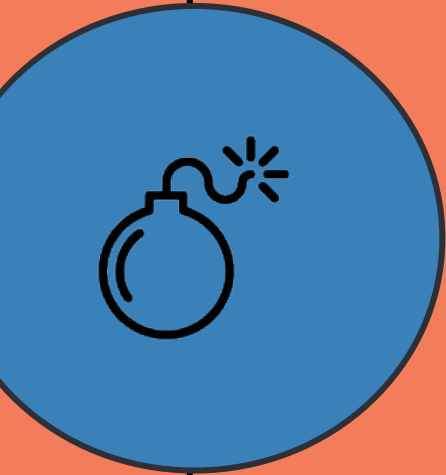
Your SRE won't look
like my SRE



Don't just do what
everyone else is doing.
Ignore people like me.



(We're often trying to
sell you something
anyway.)



But don't rest on your
laurels!

- **Words of Wisdom**

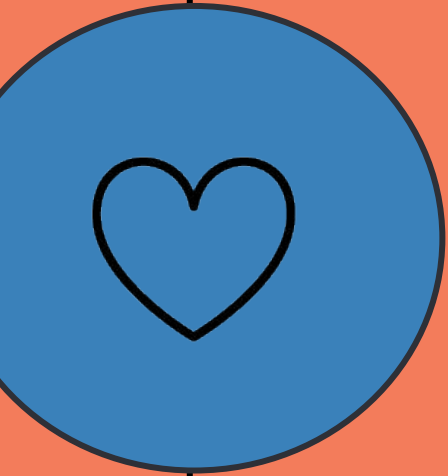


*“Better a diamond
with a flaw than a
pebble without.”*

-Confucius



Diamonds require
pressure...



Together we can all
be diamonds.

Thank you!



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