From nothing to SRE

Matthew Huxtable Principal Engineer @ Sparx



SLIS / SLOs **On-call**

Observability

One-step deploys

Resilience engineering

Postmortem culture

Config management

@matthewhuxtable

Hermetic builds

Human factors

Capacity planning Alerting

Monitoring

Error budgets

Risk tolerance

Canary analysis

Testing in production

Launch reviews

SLIS / Hermetic builds SLOs **Capacity planning** Monitoring **Observability**

One-step deploys

Resilience engineering

Postmortem culture

@matthewhuxtable

Human factors

Error budgets

Alerting

Risk tolerance

Canary analysis

Testing in production

Config management

Launch reviews



Why SRE?

Common challenges in small(er) organisations



{Software,
Network,
Systems}
engineering
as a lever



Complexity catches us by surprise





How does your team navigate risk?



Where do we start?

Where do we start?

Innovative

@matthewhuxtable

agile

Continually learning

Embedded Model





The dedicated team model



Handoffs



The dedicated team model





"You want us to do your deploys?"

The dedicated team model





"You want us to do your deploys?"

"We can't enforce error budgets on these teams!"



You build it... You run it!

Everyone is an SRE



Dickerson's Hierarchy of Reliability



Context >> Control (in most cases)



The Compliance Budget: Managing Security Behaviour in Organisations

Adam Beautement University College London Department of Computer Science Malet Place, London. WC1E 6BT +44 20 7679 7214

a.beautement@cs.ucl.ac.uk

ABSTRACT

A significant number of security breaches result from employees' failure to comply with security policies. Many organizations have tried to change or influence security behaviour, but found it a major challenge. Drawing on previous research on usable security and economics of security, we propose a new approach to managing employee security behaviour. We conducted interviews with 17 employees from two major commercial organizations, asking why they do or don't comply with security policies. Our results show that key factors in the compliance decision are the actual and anticipated cost and benefits of compliance to the individual employee, and perceived cost and benefits to the organization. We present a new paradigm – the Compliance Budget - as a means of

factors in the compliance decision are the actual and anticipated cost and benefits of compliance to the individual employee, and perceived cost and benefits to the organization. We present a new paradigm – the Compliance Budget - as a means of

@matthewhuxtable

M. Angela Sasse University College London Department of Computer Science Malet Place, London. WC1E 6BT +44 20 7679 7214 Mike Wonham Hewlett-Packard Labs Filton Road, Stoke Gifford, Bristol, BS34 8QZ

a.sasse@cs.ucl.ac.uk

michael.wonham@hp.com

demonstrated that many human failures are caused security mechanisms that are too difficult for ordinary users. Even users with good technical skills such as systems administrators and software developers often struggle to keep up with the increased complexity and workload created by security mechanisms (Zurko & Simon, 1996; Flechais et al. 2003). The primary goal of the flourishing research community focusing on usable security, known as HCIsec, is to provide security tools that the intended users can operate correctly [e.g. Yee 2005] and complete a security task – such as encrypting an email effectively. Other key usability criteria established by the HCI research community – user satisfaction and user cost – have hitherto been addressed implicitly rather than explicitly in usable security research.

research community – user satisfaction and user cost – have hitherto been addressed implicitly rather than explicitly in usable security research.



SRE is a...

SRE is a... cost centre?

SRE is a... cost-centre?

SRE is a... cost centre? source of bureaucracy?

SRE is a... cost centre? source of bureaucracy?

SRE IS a... cost-centre? seurce of bureaucracy? gatekeeper to production?

SRE IS a... cost-centre? seurce of bureaucracy? gatekeeper to production?

SRE is a force multiplier

How do you want your users to feel?

How do you want your users to feel?

@matthewhuxtable

(Measure it)









How do you do SRE?

Successful SRE at small scale

- Measure positive value signals
- Dial up autonomy, dial down control
- Incentivise shared context and a common approach



https://en.wikipedia.org/wiki/Egyptian_pyramids#/media/ File:All Gizah Pyramids.jpg

@matthewhuxtable

Attribution

https://www.freepik.com/free-photos-vectors/icon pch.vector – <u>https://www.freepik.com/free-photos-vectors/line</u>