Expect the Unexpected
Preparing SRE Teams for Responding to Novel Failures

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Help > About

John Arthorne

- Developer/Manager/SRE at Shopify

Shopify

- Software for Commerce
- 30 → 120 SREs
- Average $1700 GMV / second
What We’ll Cover

- Why should I care about incident prep?
- Survey of incident preparation practices
- Preparing for truly unexpected failures
SRE practices lead us to a high failure novelty rate
- Engineers love orderly and predictable
- Deliberate practice makes incidents more comfortable
- How do we practice the unpredictable??
Transparent Response

- Make realtime shadowing easy
- All decision making and data behind it shared widely
- Senior staff leading by example. Not knowing or guessing wrong is ok.
Incident Simulation

- aka “Wheel of Misfortune”
- Enables taking on incident response role in a safe practice environment
- Caveat: only as good as existing human understanding of the system
Game Days

- Start from hypothesis of system behavior in failure state
- Induce real production failure
- Observe, recover, adapt
Turn Rusty Knobs

- Exercise failure recovery practices and software in production
- Builds confidence that it will work when needed
- Weather events are a good forcing function
Automated Failure Tests

- Focus on most routine failures: timeouts, connection failures
- Many open source tools available to help
- Caveat: Can’t validate full system behavior
Does this really help with novel failures?
Magic Recipe for Novel Failures

- High trust teams
- Communication
- Creativity
- Fast consensus
- Calculated risk-taking
- Empathy
Training Exercise Formula

● Very clear or intuitive end goal
● Little or no added constraints
● Progressive disclosure of new information
● Randomized teams
● Fun!!
Summing Up

Successful SRE teams see a continual drift toward novel failures

Many practices available to prepare the people, systems, and teams for responding to failures

Don’t overlook the importance of a strong team culture emphasizing trust and creativity
Thank You!

github.com/jarthorn/lego-incident-response

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