Bridging the Gap: Leveraging Incidents to Align Platform and Product Engineering

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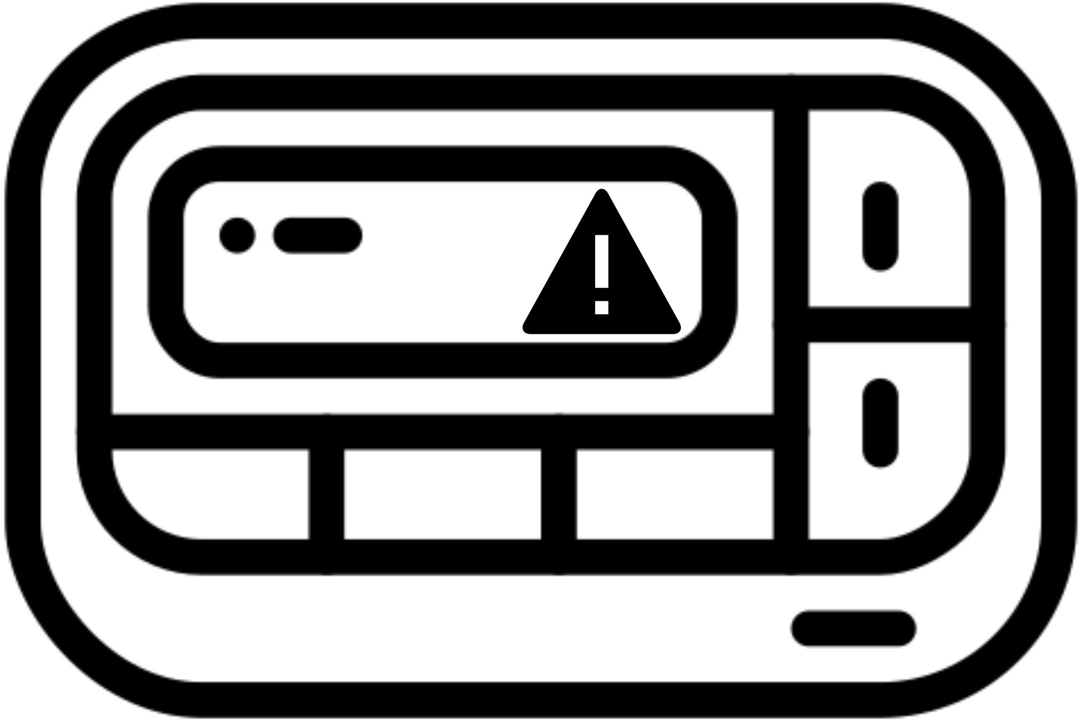
Chapters

- **The Dark Hours: Surviving a 2AM On-Call Apocalypse**
- **Meltdown! Swiss Cheese and the Anatomy of Severe Incidents**
- Never let a good ~~cheese~~ crisis go to waste
- **The Secret of the Fallen Pyramid**
- **BPM goes RARR**
- **The Alchemist Discovery:** PE +PM = BFF
- Tips for better collaboration between Product & Platform
- Conclusion

CHOOSE YOUR OWN ADVENTURE

The Dark Hours: Surviving a 2AM On-Call Apocalypse

It’s 2 am and your pager app starts buzzing.



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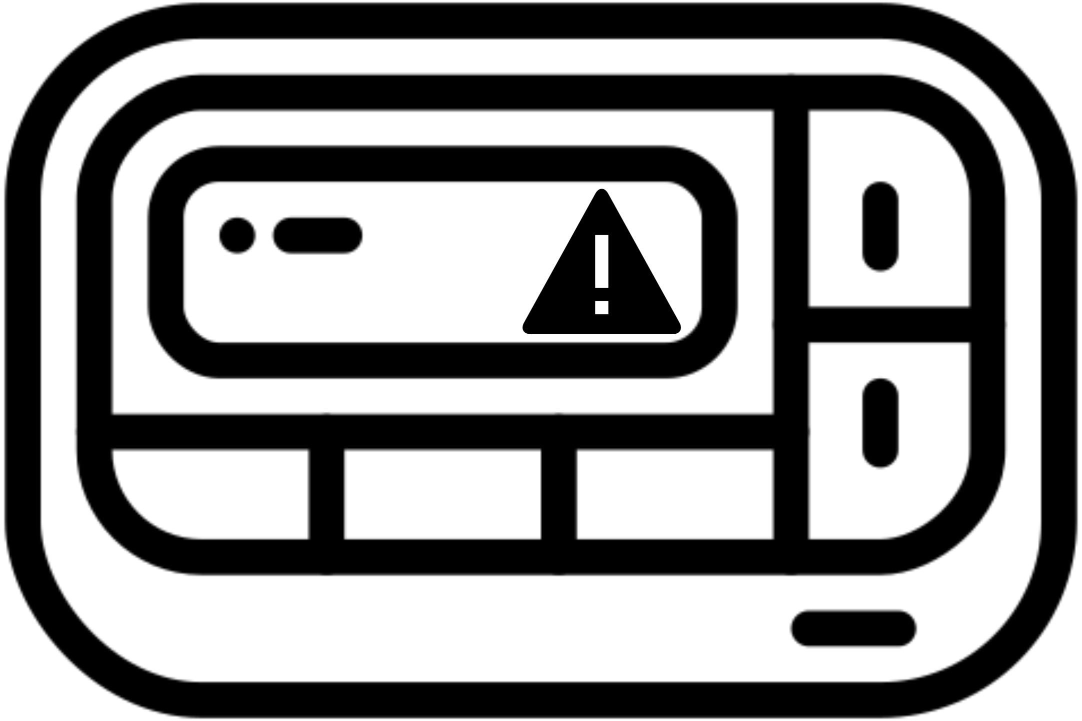
Your Pager keeps buzzing.



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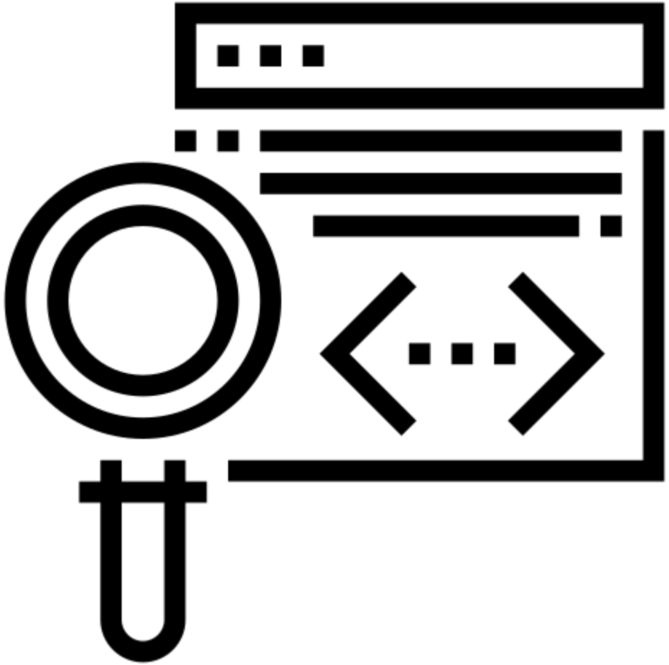
B. Look deeper into the issue?

You’ve identified an issue, and you quickly deploy a fix.



Do You?

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YOU LOSE.

The site has gone down again. The next engineer reverted your fix which in turn caused an bigger outage.

You receive an angry call from your main customer demanding an explanation.

THE END…

Do You?

A. Go back to bed. The next shift starts in 30 mins and if something breaks it will be the next engineer’s problem.

B. Try **something else?**

The Goal of this talk is to share what that "something else" is.

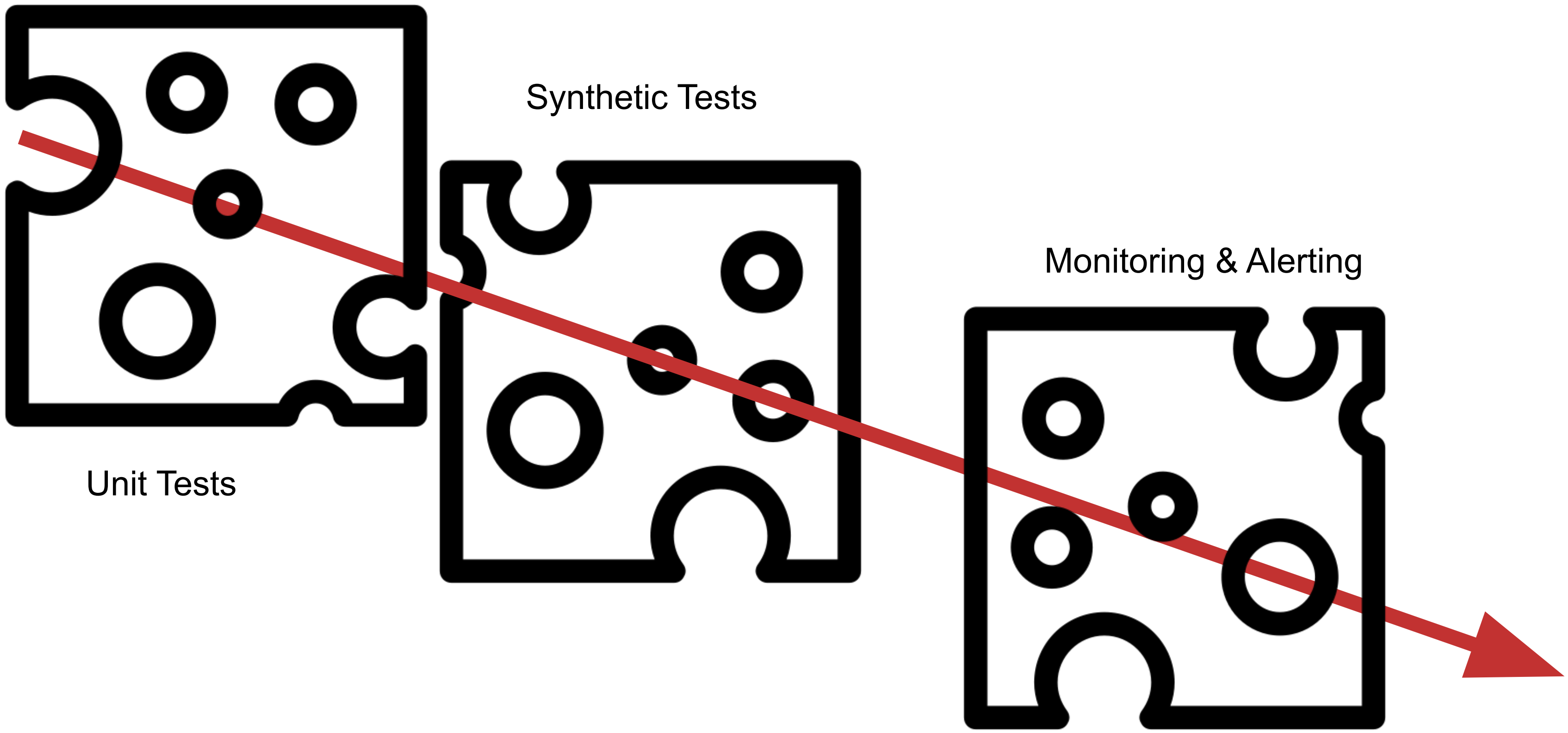
Time for:

Meltdown! Swiss Cheese and the Anatomy of Severe Incidents

Severe Incidents & Cheese have many things in common

- Both are products of letting something simple go unchecked
- You cannot predict where the holes will be
- Holes can align in unexpected ways, making even bigger holes

James Reason’s Swiss Cheese Model



What you can do about these holes

- Acknowledge these holes will happen
- Increase Monitoring and alerting
- Invest in tools to detect anomalies
- Ask developers to instrument their apps

This is not enough

- Acknowledge these holes will happen
  - But let’s try to have fewer
- Increase Monitoring and alerting
  - Wrong metric, wrong fix
- Invest in tools to detect anomalies
  - Anomaly alerts can be random and flaky
- Asking developers to instrument their apps without any guidance
  - Expensive, and possibly misleading

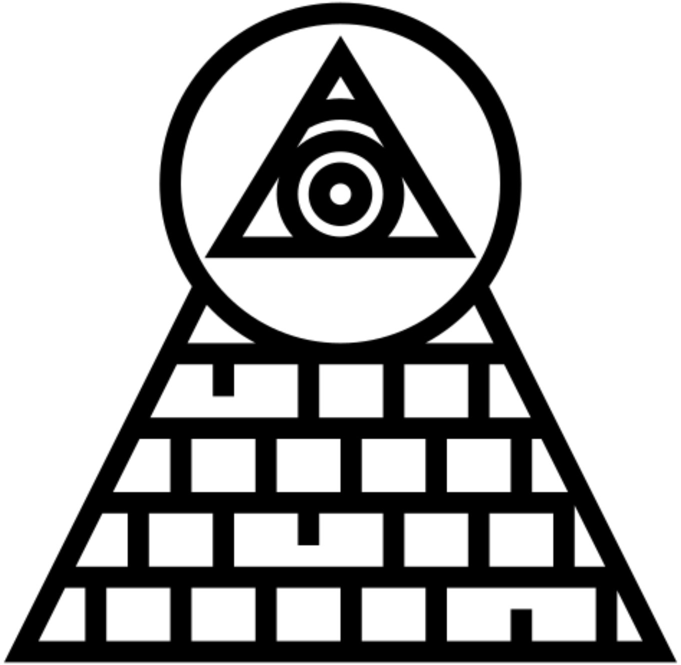
Never let a good ~~cheese~~ crisis go to waste

- Incidents create opportunities for medium & long-term investments
- Incident expose your weak spots
  - But beware of survivorship bias
- A severe incident will energize your staff to spring into action
  - But “We cannot solve our problems with the same level of thinking that created them”
    - We need to do “something else”

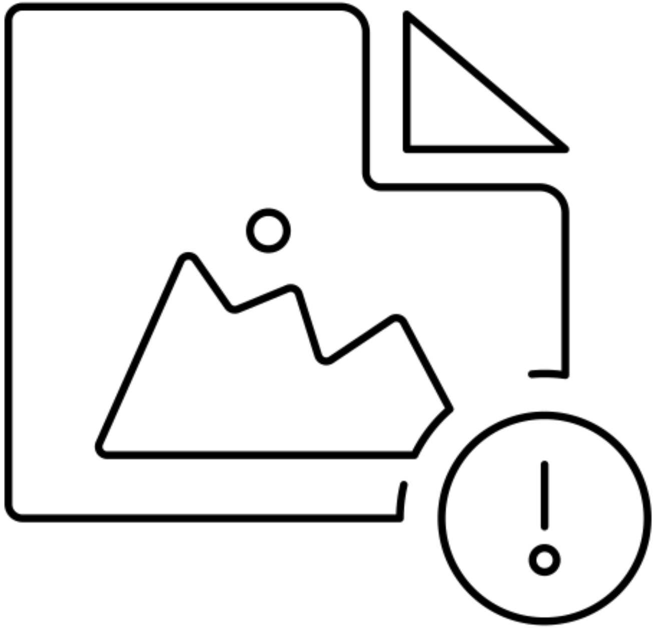
The Secret of the Fallen Pyramid: tests are not enough

- 800 tests for the User Model
- 80 tests for the `/api/user/login`endpoint
- 40 tests for the React Login component
- 8 Playwright/Cypress tests for the login flow

Your app can still go down, bad.



A missing icon can still cause a login page outage



Time to reveal the “Something Else”

“Something Else” == Implementing Business value Proxy Metrics.

BPMs for short.

Login BMP:

$$\frac{\text{login\_views}}{\text{dashboard\_views}} \quad \text{X } 100$$

Alerts based on BPMs allow you to move fast with confidence.

But wait, what is Business Value again?

”Business value is anything which makes people more likely to give us money.”

- Coda Hale

”Our code generates business value when it **runs**.[Not when we write it]”

- Coda Hale

Platform Engineering + Product Management = BFFs

BFFS = Business Focused Friends who RARR.

- Retention
- Activation
- Revenue
- Referral

RARRs map nicely to BPMs

- Retention ➢ Logins per hour
- Activation ➢ Signups per hour
- Revenue ➢ Subscriptions per day
- Referral ➢ Marketing page views

BPMs are objective measures of how well your system is performing business wise.

Product development is shifting from Experience to outcome driven

Experience

As a **{User persona}**

I want to **<be able to do something>**

So that **<I gain some benefit>**

Experience

[...]

Capability

We believe **<this capability>**

Will result in **<business outcome>**

We will have confidence when **<measurable signal>**

Experience

[...]

Capability

[...]

Measure

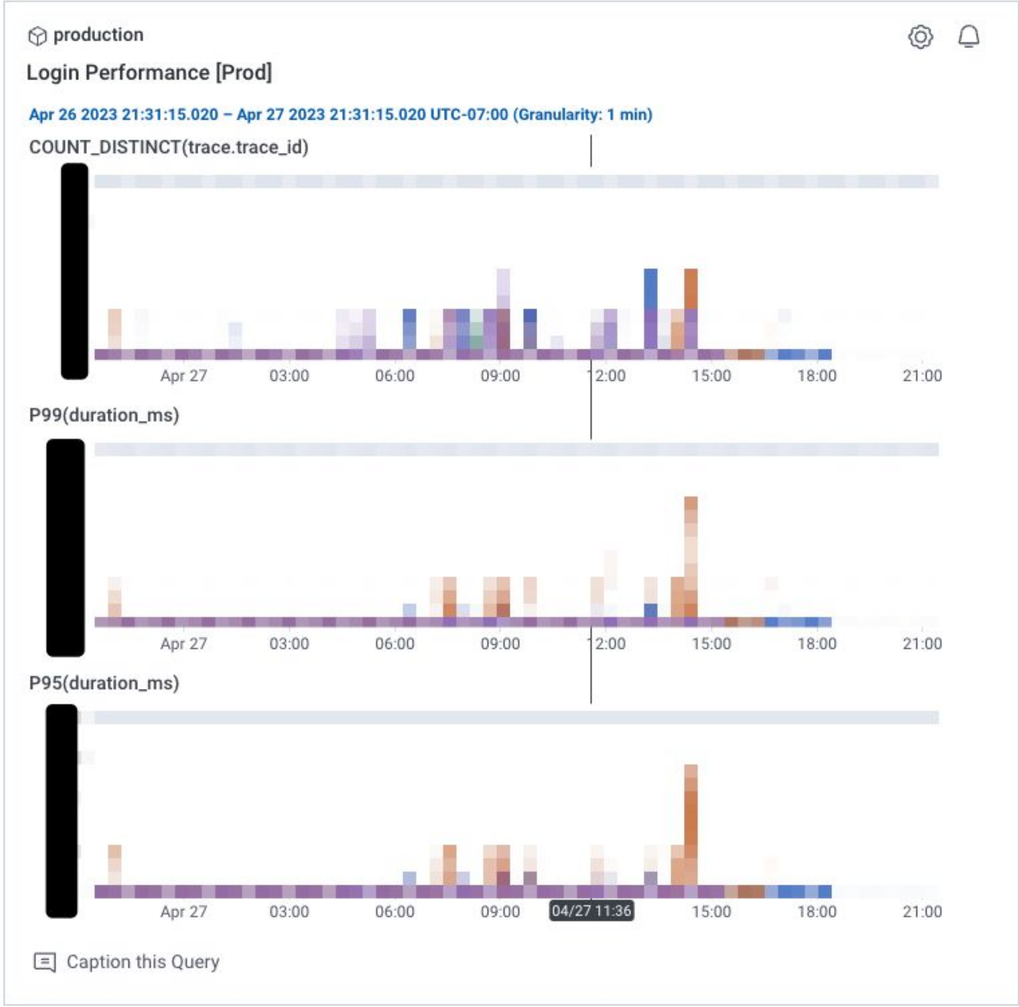
We will measure **<signal>**

By instrumenting **<data>**

With this **<experiment framework>**

Business Value Proxy metrics is not just a signal that a feature is creating the outcomes we want

Business Value Proxy metrics show what is mission critical.



production

Login Performance [Prod]

Apr 26 2023 21:31:15.020 – Apr 27 2023 21:31:15.020 UTC-07:00 (Granularity: 1 min)

COUNT_DISTINCT(trace.trace_id)

[redacted]

P99(duration_ms)

[redacted]

P95(duration_ms)

[redacted]

Caption this Query

CHOOSE YOUR OWN ADVENTURE

The Dark Hours: Surviving a 2AM On-Call Apocalypse

Do You?

A. Go Back to Sleep
   a. Your site goes down, which gets your customers upset.

B. Jump Right to it
   a. Your site stays up, not because of your efforts, but because as it turns out it was an unimportant bug

C. **Check Mission Control**
   a. If it looks okay, you can mute the alert and go back to sleep.
   b. If it looks off
      i. You identify the BPM impacted, correlate to other signals and quickly find a fix. You go back to sleep trusting that your BPMs will alert if there is anything else.

More Tips on how to use Incidents as calls to action

- Make use of Incident Management software to capture your learnings
- Utilize the learnings to Create BMP backed alerts
- BMPs can help you define Key Performance Indicators. OKRs, V2MOMs, etc. can all be correlated with a BMP.
- Sharing your repo is caring.
- OODA loops can be used for Business Metrics!
- Don’t forget: finding the root cause is not enough, implementing preventive measures is just as important as bug fixes.

The End.

Questions?

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