Cognitive Apprenticeship in Action

Paige Cruz
Agenda

01  I’m on-call for WHAT?!
02  Alert Triage Hour of Power
03  Findings
04  Cognitive Apprenticeship
05  Outcomes
I am on-call for WHAT!?
On-call Onboarding *Before*

Read the docs

*
On-call Onboarding *Before*

Read the docs

* Pair with buddy
On-call Onboarding *Before*

- Read the docs
- Pair with buddy
- Shadow Primary
On-call Onboarding *Before*

- Read the docs
  - Pair with buddy
- Shadow
  - Primary
  - Reverse Shadow
On-call Onboarding Before

- Read the docs
- Pair with buddy
- Shadow Primary
- Reverse Shadow
On-Call Knowledge Areas

System

Telemetry

Business Context
The System

- Application
- Infrastructure
- Release Process
- Architecture
Available Telemetry

- Traces?
- Events?
- Logs?
- Instrumentation
- Querying
- Tags/Attrs
Business Context

- Tool sprawl
- Alert hygiene
- Who owns what
Alert Triage
Hour of Power

02
“[Alert Triage] is the most valuable meeting on my calendar” - paigerduty
## Alert Triage Hour of Power

<table>
<thead>
<tr>
<th>Task</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting Intention &amp; Roles</td>
<td>10m</td>
</tr>
<tr>
<td>Investigate alert</td>
<td>40m</td>
</tr>
<tr>
<td>Wrap up</td>
<td>10m</td>
</tr>
</tbody>
</table>
Select alert
Set Tone
Facilitator
Stay on track
Protect Recap
Driver

Advocate for your learning needs

Externalize thought process

Ask for guidance
Scribe

- Capture learnings
- Ask for clarification
- Sharing is caring
Support

Differing perspectives

Cheerleaders
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Set Up
## Alert Triage Hour of Power

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ACK the “page”

<table>
<thead>
<tr>
<th>Status</th>
<th>Severity</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triggered</td>
<td>Critical</td>
<td>Email 1234 is Down</td>
</tr>
</tbody>
</table>
Verify then trust the alert

```
# 6h latency burn rate
(
  1 - (  
    (sum(rate(trace_call_duration_bucket{to_svc="ordering-svc", to_op="/ordering.Ordering/ListOrders", le="0.5"}[6h])))  
    /  
    (sum(rate(trace_call_duration_count{to_svc="ordering-svc", to_op="/ordering.Ordering/ListOrders"}[6h])))  
  )  
  > (6 * 0.0009999999999999432)  
)
```
Investigate

Possibilities

Possibility
Possibility
Possibility
Possibility
Possibility
Alert Triage Hour of Power

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Alert Recommendations

- KEEP
- TUNE
- DELETE
On-call Onboarding After

Alert Triage: Support x2

* * *

Alert Triage: Driver
On-call Onboarding After

Alert Triage: Support x2

* Alert Triage: Driver

Pair with buddy

* Shadow

Reverse Shadow

🎉
Lessons Learned
Alerts are not precious!
- apk
Findings

Alerts are not precious
Findings

- Alerts are not precious
- Active listening is tricky
Findings

- Alerts are not precious
- Active listening is tricky
- Learning is a worthy goal
Findings

- Alerts are not precious
- Active listening is tricky
- Learning is a worthy goal
- Alert triaging is not an innate skill
Findings

- Alerts are not precious
- Active listening is tricky
- Learning is a worthy goal
- Alert triaging is not an innate skill
- Production can surprise all levels
04
Cognitive Apprenticeship
mentorship
Modeling
Coaching
Scaffolding
Reflection
Exploration
Alert Triage

Modeling
Alert Triage

Modeling  Coaching
Alert Triage

Modeling  Coaching  Scaffolding
Alert Triage

Modeling  Coaching  Scaffolding  Articulation
Alert Triage

Modeling  Coaching  Scaffolding  Articulation  Reflection
05

Outcomes
Real Results*

1000% uptime

-50% unactionable alerts

100% runbook coverage

∞ reliability

*jk
Real Results

10000% uptime

-50% unactionable alerts

100% runbook coverage

∞ reliability

*jk
IC meets VP: Explaining Incident Mgmt

Mr. VP

Mr. IC
We invested a lot in Incident Management last quarter and incidents went up... Is that expected?
It’s not that we’re finding more incidents, it’s really more that we’re trying to handle them better and the investment really helped the team to do that!
Really? Here it says that not only did we have more incidents but they also lasted longer on average.
What’s the ROI of Alert Triage Hour of Power?
Really Real Results

3
Years strong

15-20
Regular attendees

EPD
Expanded to PM & Designers

0%
Reduction in spammy alerts
Margaret Gorguissian · 1:56 PM

And people consistently call it the best meeting at Lightstep -- your legacy lives on!!!

New engineers are always so stoked about it :D
Thanks!

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paigerduty

paigerduty.com

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