

The Virtuous Cycle

Getting Good Things Out of Bad Failures

Joy Scharmen



I'm here to talk about failure.

Why talk about failure?

Failure is amazing.

Failure is our best teacher.

How do we learn from failure?



SORRY
DUE TO
ALLOCATION
WE CAN SERVE
NO MORE
GASOLINE
TODAY

Have you ever run
out of integers
in an auto-
incrementing primary
key column in a
database?



**Temporarily
out of
Gasoline
OPEN
for your other
driving needs**

Frameworks that default to INT

Looking at you, ActiveRecord.

Assumptions about the size of your database.

(before it hits production)

Just not thinking about it

I'm just happy that it works at all.

Oops, I did it again.

We had this happen to us twice.

...then it happened a third time.

And we're an operations
company.

TT / (° - °)

First, consider it more deeply.

$$\Sigma(\tilde{z}, \tilde{z}^{\circ})$$

We fixed one occurrence. It was simple.

It happened again. Same fix.

Then it happened again.

Obviously what we are doing here isn't working.

Who here is familiar with retrospectives?

ret·ro·spec·tive

,retrə'spektiv/

adjective

1. looking back on or dealing with past events or situations.

Who has been to a boring retrospective?

I have. I've run them. Sorry.

A retrospective is the pivot point
between failure and learning.

If it's boring, no one is learning.

How do we have non-boring
retrospectives?

Create engagement. Prepare!

Don't force people to watch the sausage being made.

Before the retrospective:

Choose a facilitator

They should know who was involved and why.

Before the retrospective:

Build a timeline

Gather your facts.

Use your tools wisely

“We become what we behold. We shape our tools, and thereafter our tools shape us.”

— Marshall McLuhan

My Tools For

Incident Management

Retrospective Prep

ChatOps

Time

Bot Tools

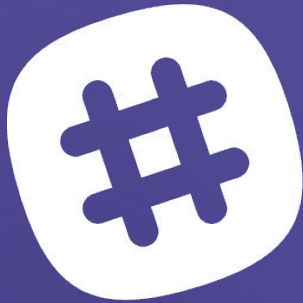
Outreach

SitReps

Organization

My personal incident management tool belt:

ChatOps



My personal incident management tool belt:

Bot Tools



Lex Neva · 10:56 AM

h timeline we've patched things up, checking whether we fixed it



Heimdall Bot · 10:56 AM



My personal incident management tool belt:

SitReps

Physicals table ID seems to have rolled over. Orchestration is updating the table to use bigint.

IC: 🙄🙄🙄

Comms: 🐛🌸🌟

🔥🍷🍷🍷🍷🍷

Posted about a year ago, Nov 24, 2014 03:39:28 UTC

My personal retrospective toolbelt:

Time

Block out time.

My personal retrospective toolbelt:

Outreach

Have roles defined.

My personal retrospective toolbelt:

Organization

Send out the agenda, including the timeline, the day before the retrospective.

People should show up to a retrospective with context to begin a discussion.

Everyone is in the retrospective. The timeline is done. How do we start?

Have the most involved
engineer give a brief
summary of what happened.

Read the room.

Make sure everyone is engaged.

Talk about customer impact.

Be compassionate for your customers.

Take note.

Pick the point you want to start from and dive in.

If you ever get to “human error”, keep digging.

No, really.

If you ever get to “human error”, *keep digging.*

Most Important:
Always Assume Good Intent

Defensiveness kills
retrospection.

One way you can tell a retrospective is good:

you have a ridiculous list of remediation items.

Remediations can be anything from:

“re-architect the whole platform”

to

“fix typo on line 5”.

to

“make the speed of light go faster”.

Don't do every remediation.

and

Don't discount big projects!

What do you do with all of these remediations?

Bring them to product as well as engineering!

Product can be your best friend.

Do you have a need? Your customers do too.

Product is great at getting needs in front of customers.

Heroku Pipelines

Pipelines is a product that came out of an engineering need.

```
myapp-jim-dev ---
                \
                ----> myapp-staging ----> myapp
                /
myapp-kim-dev  ---
```

Is your fix a small thing you can add to existing customer tools?

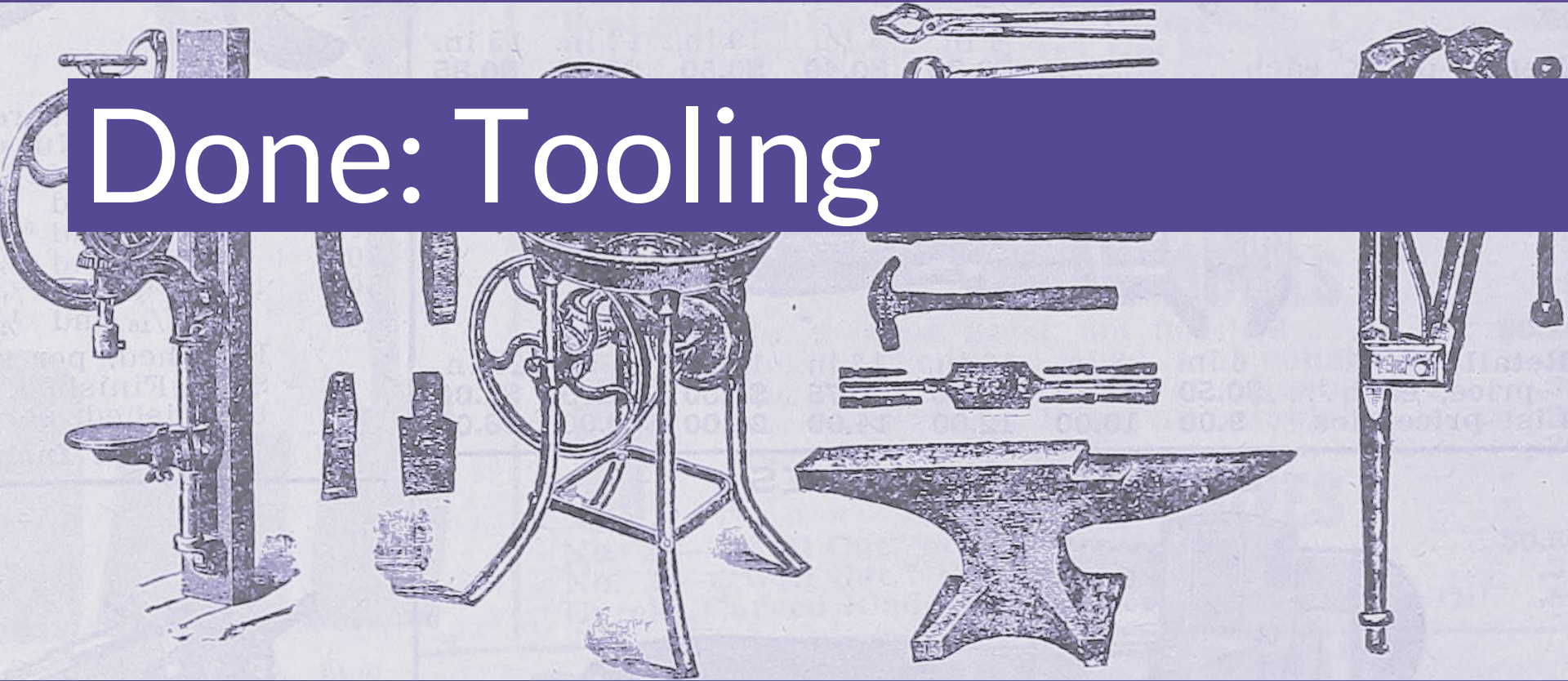
Engineering should be able to do this with minimal product sign off.

You can improve your customers' experience.

Your customers, your fellow engineers, and your community can benefit from your own needs and hard won experience.

Back to the story.

Done: Tooling



Done: Process

HEALTH

FLAMMABILITY

REACTIVITY

PERSONAL PROTECTION

Next: Automation

Achtung Automatiktür

Next: Fix inputs

* <https://github.com/rails/rails/pull/24962>



Every failure is a chance
to learn.

Make those chances count.

Thank you.

Retrospective Resource Wiki:

<http://retrospectivewiki.org>

Infinite Hows:

<https://www.oreilly.com/ideas/the-infinite-hows>

Heroku Dev Center:

<https://devcenter.heroku.com>

Retrospective Template:

<https://github.com/peculiaire/incident-lifecycle/blob/master/retrotemplate.md>

Joy Scharmen / [@peculiaire](#) / joy@heroku.com