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Crafting High-Efficiency Workflows @ Lunar

Developer Experience - Kasper J. Hermansen

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WHOAMI

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WHOIS LUNAR

AGENDA
AGENDA
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AGENDA
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Intro Developer Experience

Developer Experience @ Lunar

Questions & Link to slides

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Intro to Developer Experience

Developer Experience, DevEx, DX - What?

Happiness and Satisfaction

But how? And why?

- Using research
- Preserving flow state

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But why?

- Better results
- More consistently
- With a sustainable cadence

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And how?

Finding problems to solve

Optimizing feedback loops

Feedback loops

- Tests are fast enough
- You can debug locally
- You can deploy as fast as necessary

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Minimizing cognitive load

Cognitive load

- Focus on your problem entirely, noneelses
- You can debug production systems
- Documentation be plenty

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Preserving Flow state

Flow state is king!

- Keep our developers hands on keyboard, typing furiously
- Minimise distractions
- Context switch is death

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But why?

North star

- Overall perception of how easy it is to deliver results
- Satisfaction
- Productivity

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Metrics

- How long does CI take?
- Code review turnaround time
- First time to PR
- Commit Cadence
- Deployment time
- Pssst. DORA metrics

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The role itself

Surveys

Communication and/or implementation

Recent hype

DX

- Marketing: DX
- But an old term: <https://wiki.mozilla.org/DeveloperExperience> ~ 2012

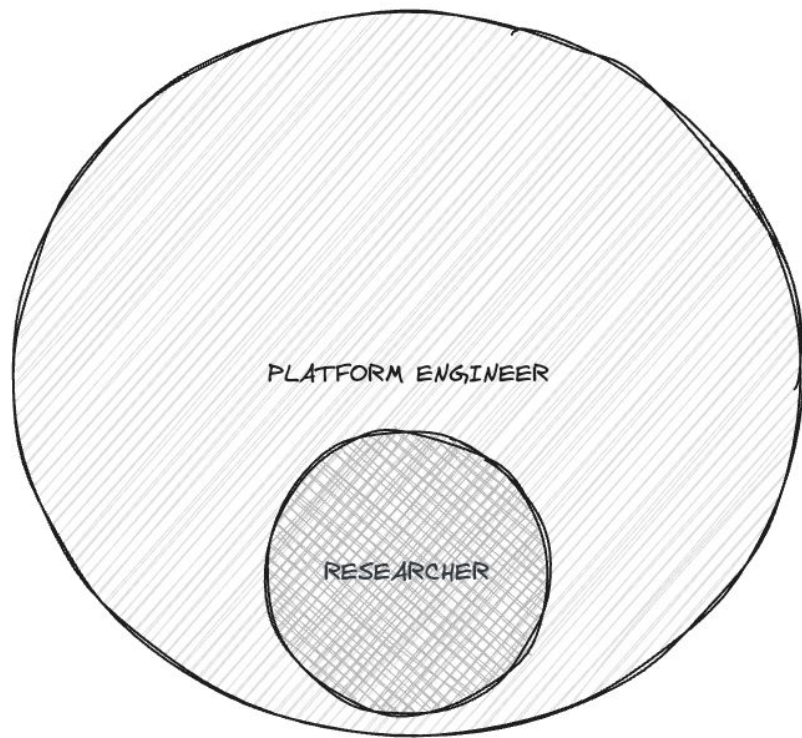
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Role VS Culture

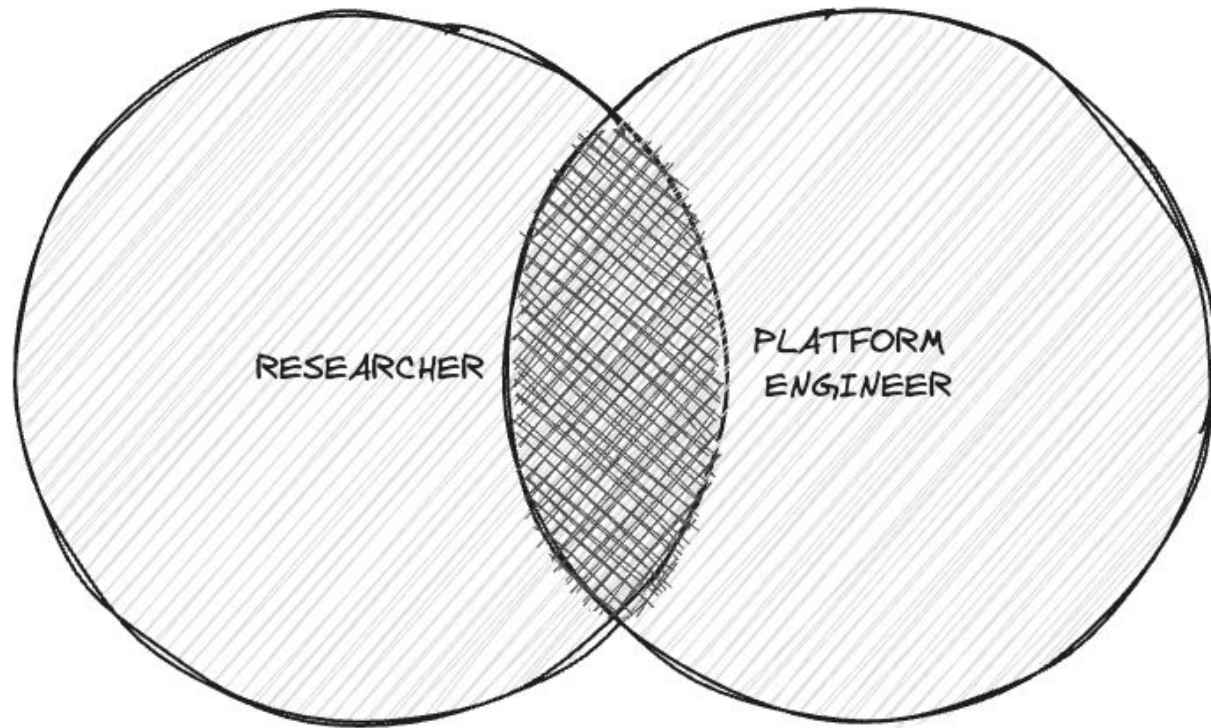
Team Topologies

- Scale
- Medium
- Large

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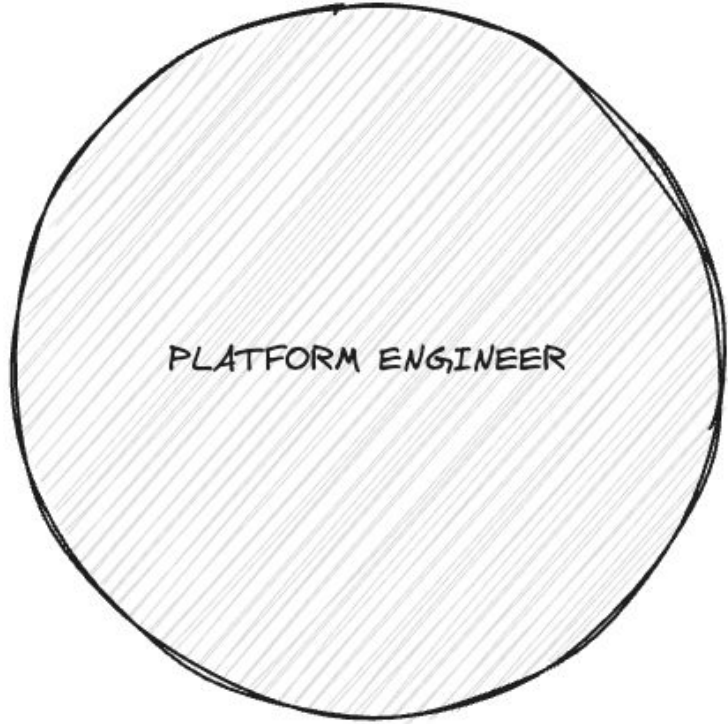
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RESEARCHER



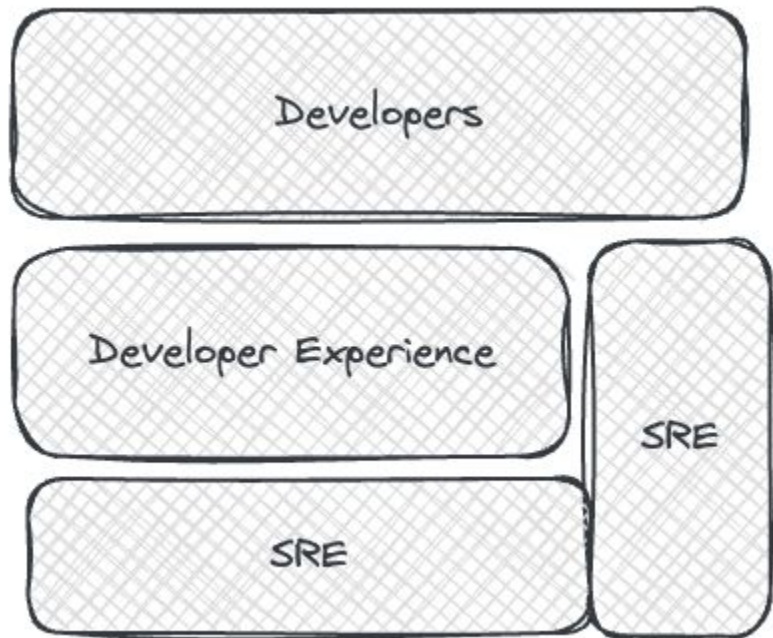
PLATFORM ENGINEER

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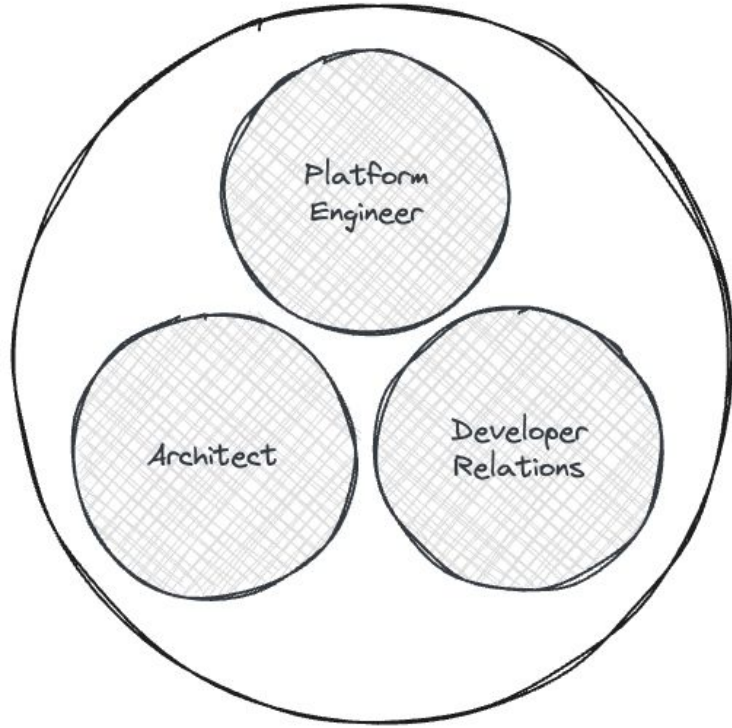
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Developer Experience @ Lunar

Topology



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What we actually do

Talk to people

Look at metrics / Define metrics

Let people become ambassadors

- Connections are everything
- Help people build trust, but solving small problems
- COMMUNICATION!

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So now we have a filled backlog?

Kill your ideas like cattle

Pst.. They're not puppies

Let people become ambassadors

- Connections are everything
- Help people build trust, but solving small problems
- COMMUNICATION!

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People will be resistant

- Kill them with kindness
- Deliver an awesome experience, and they will come
- Easier with trust

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Golden Path - 80/20 Rule

- Is the problem important enough to solve
- Solve classes of problems

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Executing

Feedback and communication

- Quick lean iterations
- Invite for beta tests
- Expect feedback
- Iterate
- Set right expectations

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**Our own workflows should
be great again**

Treat ourselves like we treat others

- Focus on solid tooling for ourselves
- Testability
- Gradual intentional rollout

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Aspirations

**No unnecessary
infrastructure complexities**

Golden path

Acceleration and solid feedback loops

**Letting developers be in
control**

**Security by default,
automated at scale**

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Finally, an actual example

Golden Path: Create a new Service

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CATEGORIES

Search

Your Squad

Catalog

Docs

APIs

Dead Letter

Reconstitution

Event-Replay

Tech Insights

Incidents

Create...

Squad Aura CHOOSE

service
Empty RPA REFramework Process Repository

Creates an near empty RPA REFramework process repository with default Lunar files

Guild RPA CHOOSE

cli
Go CLI

Create a new Go cli

Squad Aura CHOOSE

service
Go Service with fx-baseservice

Create a new Go service using fx-baseservice for components

Squad Aura CHOOSE

service
Go Service with vostok

Create a new Go service using Vostok for components

Squad Aura CHOOSE

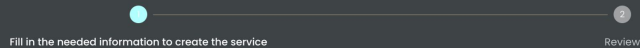
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Create a new component

Create new software components using standard templates in your organization

Go Service with vostok

Create a new Go service using Vostok for components



Name *

some-service

Unique name of the service.

Description *

some-explanation

What is the responsibility of the service?

Owner *

squad-aura

The squad that will own the service.

Domain *

developer-enablement

The business domain the service belongs to, eg. 'card-payments'. If your domain is not in the dropdown reach out to your friendly neighbourhood architect.

Kubernetes namespace

The kubernetes namespace, eg. bank. Leave empty to default to workload namespaces, ie. dev and prod.

Setup auto release policy for

dev

prod

platform

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master

1 Branch 0 Tags

Go to file

Add file

Code

About

some-explanation

squad-aura

Readme

Activity

Custom properties

0 stars

2 watching

0 forks

Releases

No releases published
[Create a new release](#)

Packages

No packages published
[Publish your first package](#)

Languages



kjuulh Initial commit from Backstage scaffolder

439256a · now 1 Commits

folder	.github/workflows	Initial commit from Backstage scaffolder	now
folder	cmd	Initial commit from Backstage scaffolder	now
folder	internal	Initial commit from Backstage scaffolder	now
file	.gitignore	Initial commit from Backstage scaffolder	now
file	CODEOWNERS	Initial commit from Backstage scaffolder	now
file	README.md	Initial commit from Backstage scaffolder	now
file	go.mod	Initial commit from Backstage scaffolder	now
file	go.sum	Initial commit from Backstage scaffolder	now
file	renovate.json	Initial commit from Backstage scaffolder	now
file	shuttle.yaml	Initial commit from Backstage scaffolder	now

README

some-service

some-explanation

Scaffolded from [go-service-template-vostok](#)



master ▾

some-service / shuttle.yaml



kjuulh Initial commit from Backstage scaffolder ●



43 lines (34 loc) · 883 Bytes

Code

Blame

```
1   plan: git://git@github.com:lunarway/lw-shuttle-go-plan.git
2
3   vars:
4     service: some
5     squad: aura
6     domain: developer-enablement
7     docker:
8       builder-image: golang:1.22.0
9
10    db: false
11    rabbitmq: false
12    ingress: false
13
```

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Application as a Service

- Vertical slices application development
- Only focus on the business logic
- **No:**
 - Bash
 - Kubernetes yaml files
 - CI pipelines
 - Only a bit of configuration

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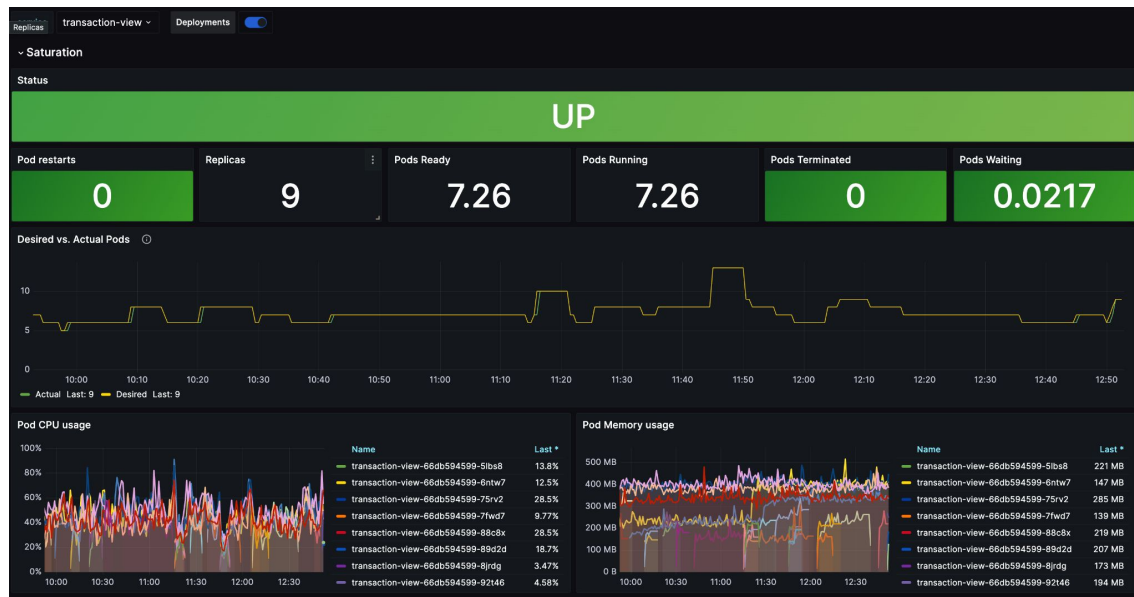
“This cloud native stuff, well. I don’t really have to think about that”

Thomas Bøgh Fangel at KCD Days 2023

Show the stuff

What you get

Signals



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Signals



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Dependency updates



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Continuous integration



Daggy

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First principles

**Only our hands in the
machine room**

**Only expose the parts
developers need to touch**

Feedback loops: CI

Reliability issues

People, really, really came to us

- At the highest ~30% unreliable builds
- Slow
- 20 Billion plugins
- Lost track of builds sometimes

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Old vs new

Need I say more

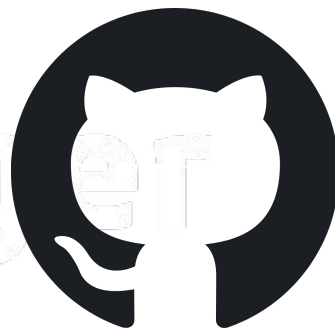


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Dagger + GitHub actions on Kubernetes



Dagger



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Build for us, as much as them

- Dagger can be packaged
- Tested
- Distributed

```
43     deps := src.WithDirectory(".", src, dagger.DirectoryWithDirectoryOpts{
44         Include: []string{"**/go.mod", "**/go.sum"},
45     })
46
47     dag := client.Container().
48         From(fmt.Sprintf("golang:%s", config.version)).
49         WithWorkdir(pathSrc).
50         WithMountedCache(pathModCache, cacheMod).
51         WithEnvVariable("GOMODCACHE", pathModCache).
52         WithMountedCache(pathBuildCache, cacheBuild).
53         WithEnvVariable("GOCACHE", pathBuildCache)
54     dag = ssh.Configure(client, dag)
55
56     dag = dag.WithExec([]string{"apt-get", "update"}).
57         WithExec([]string{"apt-get", "install", "-y", "tzdata", "zip", "ca-certificates"}).
58         WithEnvVariable("CGO_ENABLED", config.cgoEnvVal()).
59         WithEnvVariable("GOOS", "linux").
60         WithExec([]string{"go", "install", "gotest.tools/gotestsum@latest"}).
61         WithDirectory(pathSrc, deps)
62
```

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We take on the complexity

Bootstrapping GitHub action

```
1  name: ci
2  on:
3    push:
4      branches:
5        - "*"
6    pull_request:
7    workflow_dispatch:
8  jobs:
9    ci:
10     uses: lunarway/lw-shuttle-go-plan/.github/workflows/plan-ci.yml@stable
11     secrets: inherit
12     with:
13       lifecycle: stable
```

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Questions

Slides



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Feedback & Questions

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