Delivering JS at scale

LeicesterJS | 21st March 2019

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Who the hell are we?

James Ford – Tech Lead | Meerstrap

Tom Foyster – Tech Lead | Motor

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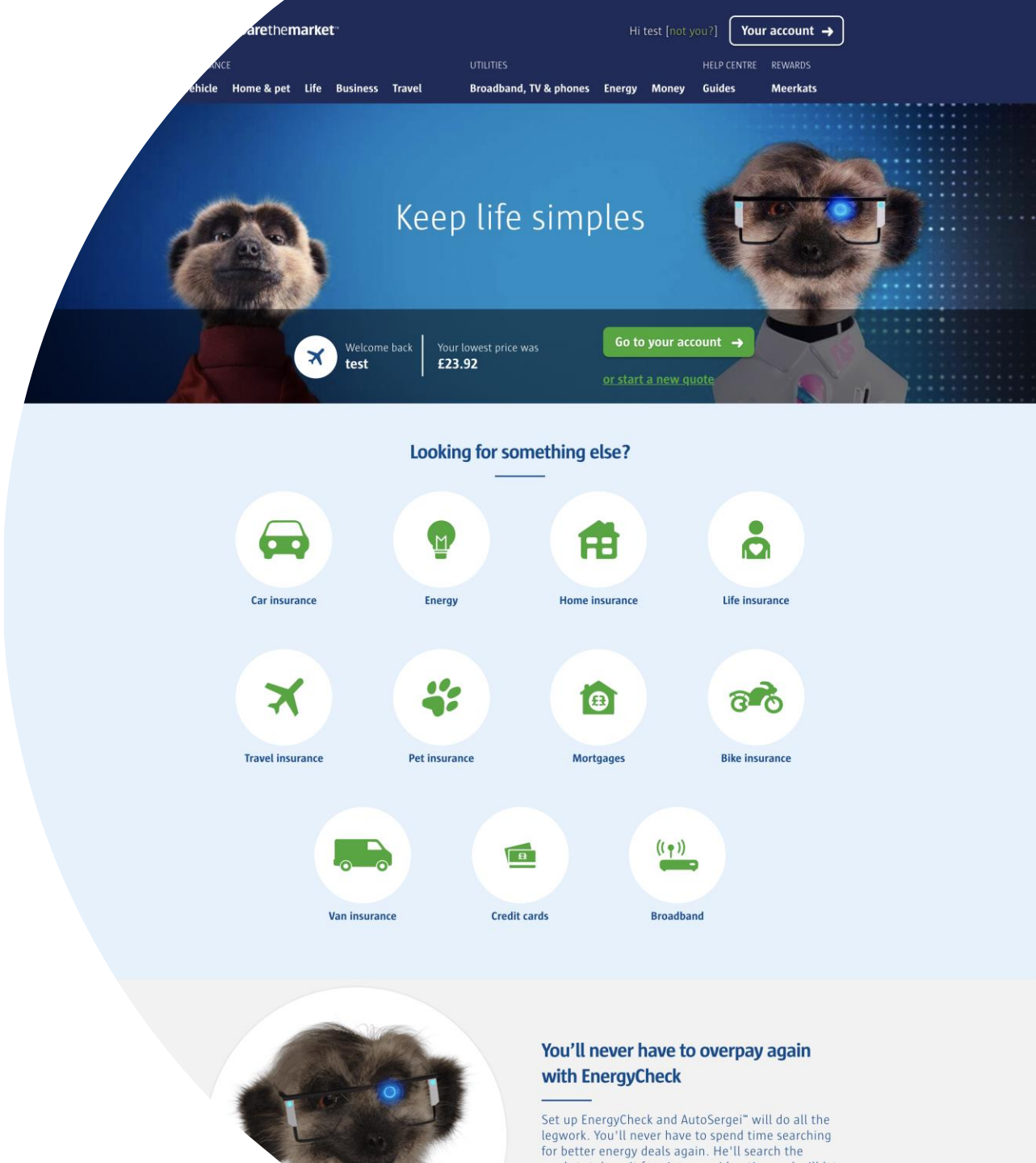
What do we do?

- Collect customer information and send it to multiple providers.
- Process the data that providers send back and display it.



“At Scale?”

What we mean when we say scale.

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Scale: Products

Scale: Motor (March 5th – 11th)

900K
users

1.2M
sessions

16M
pageviews

Scale: People

18
Teams

300
People in 'Tech'

3
Locations

Scale: Code

90
Active Repos / Day

148
Microservices

300
Releases / Month

Risks

The risks we face when operating at scale.

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“We're Number One!”

- Which makes us a great big target.
  - GDPR
  - FCA requirements
  - Bad people

- If we screw up, we have a big impact.
  - On customers
  - On revenue
  - In penalties / reparations

“Delivery?”

How are we able to deliver at scale?

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Measuring delivery

(For the purposes of this talk)

- Number of successful releases
  - Positive impact on Customers

Delivery is measured by the release of new code.

How to deliver at scale

Lessons we've learnt (the hard way), solutions we've made

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Our tech history

In the beginning…

- On-premise Monorepo(s)
- Multiple products, individual teams

Five years ago

- Cloud-based Microservices
- Architecture & Microservice teams

Two years ago

- Shared code libraries
- Code library teams

How not to deliver at scale

Monorepos: Dependency hell.

- Complex codebase
- Too many interdependencies
- Side effects and breaking code

Low confidence in releases

Lots of cross-product communication needed

Solving the complexity challenge

- Agile development, smaller stories
- More independence, safer releases
- Microservices and focused, dedicated codebases
- Broader technology base (best for specific use cases)

But…

- Still have repeated / duplicate effort

Solving the consistency challenge

- Shared libraries, components
- Dedicated teams for shared code

- More efficient
- More consistent
- Best in class solutions

Inner Sourcing

Where we are today

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Inner sourcing

- Meerstrap
  - Work with product teams to find commonalities
  - Improve and standardise the common stuff
  - Establish default structures and architecture patterns
  - Point of collaboration between development ‘Rock Stars’
  - Let product worry about product
  - Create an adoption ‘path of least resistance’

Meerstrap

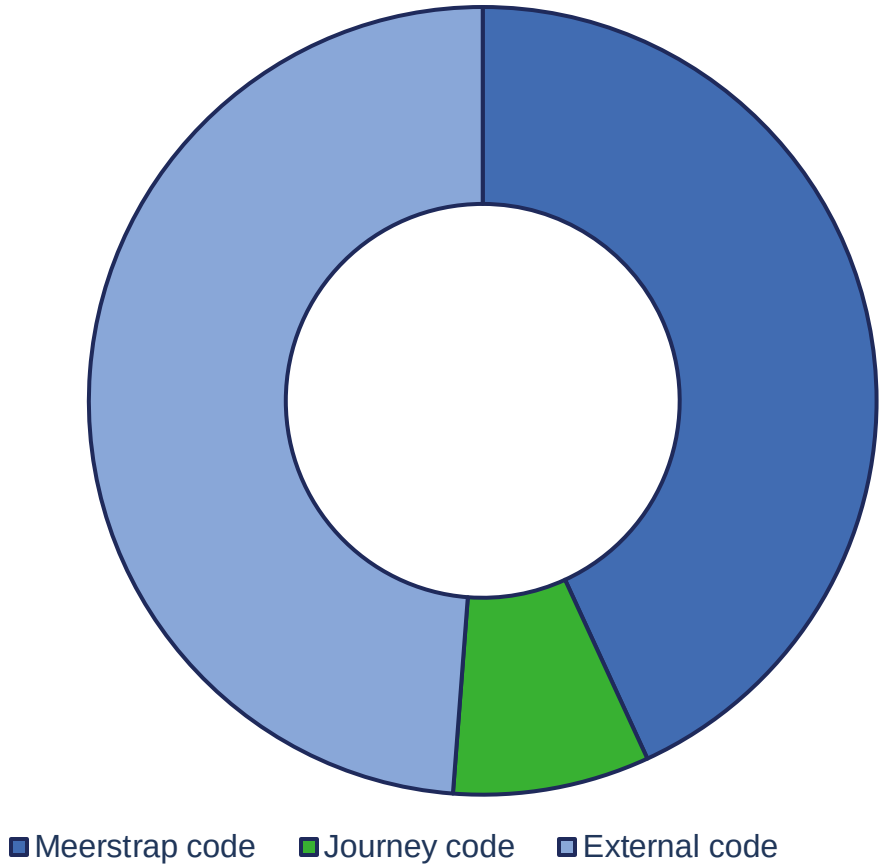
Scale: Meerstrap

13
Teams sharing

7
developers

140
shared atoms

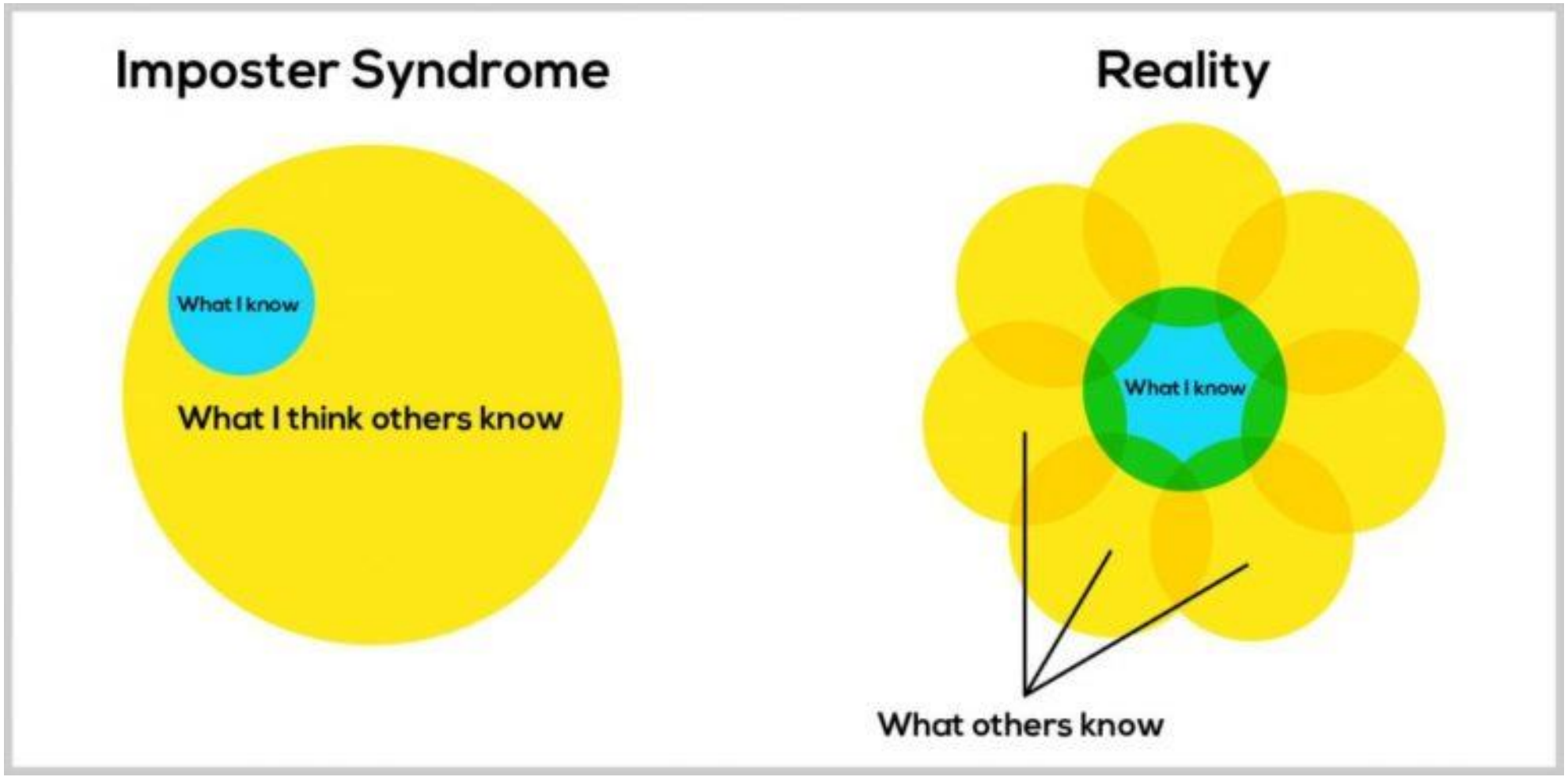
Source Maps!



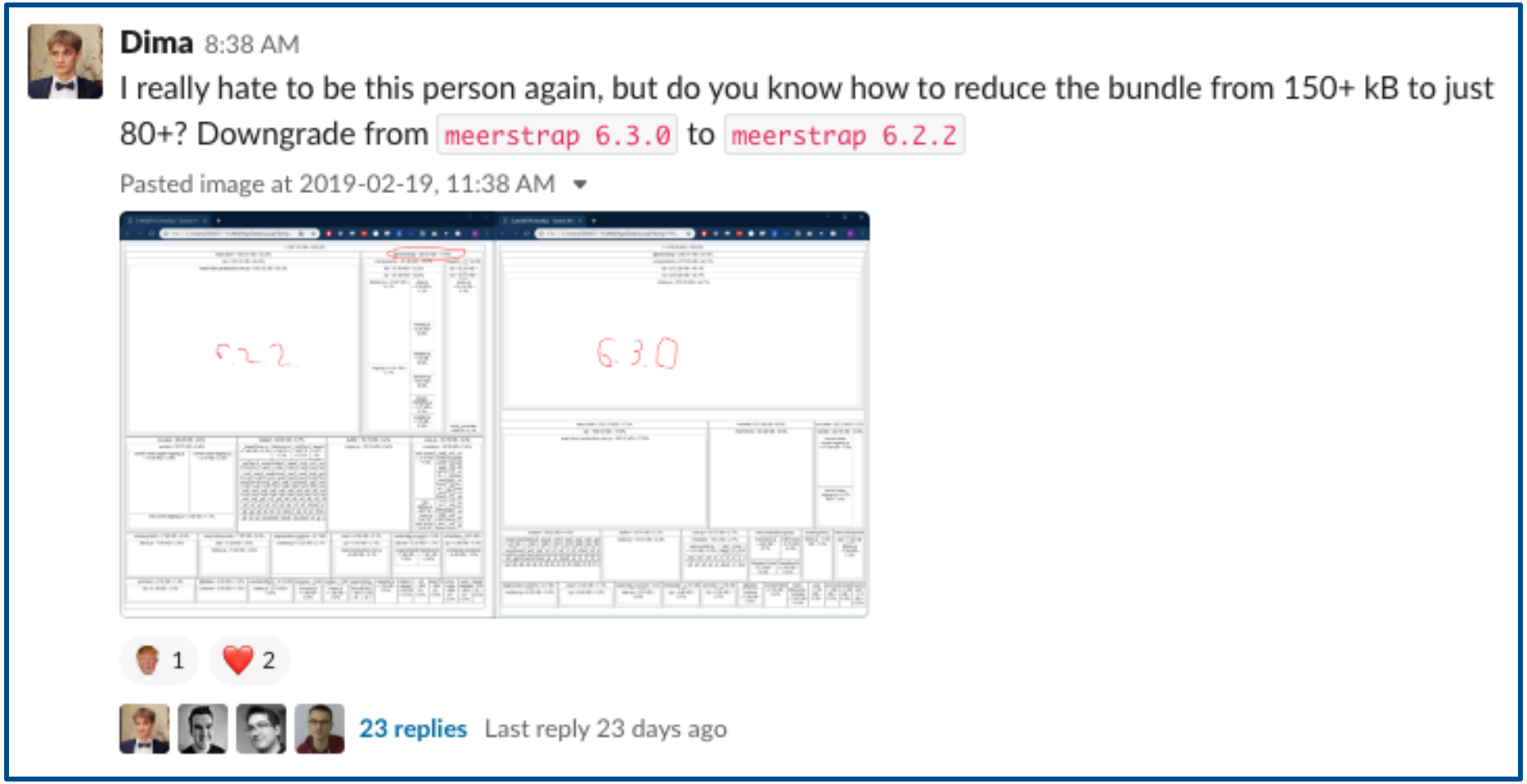
Unique code:
7%

Shared code:
37%

The domain knowledge challenge



Tough crowd.


Dima 8:38 AM
I really hate to be this person again, but do you know how to reduce the bundle from 150+ kB to just 80+? Downgrade from meerstrap 6.3.0 to meerstrap 6.2.2
Pasted image at 2019-02-19, 11:38 AM
6.2.2
6.3.0
1
2
23 replies
Last reply 23 days ago

Today's challenges: Solved?

- Encouraging the right behaviours
- Encouraging developer participation
- Accepting that v1 is not necessarily the best

- Dedicated team (because it's a lot of work)
  - Have a roadmap
  - Act as the quality gate for solutions
  - Take up the negotiation, resolution process for changes
  - Treat developers as customers:
    - Maintain compatibility
    - Work out migration paths
  - Communication, training, developer support

Delivering JS at scale

Our Main Theme

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Confidence.

Without it, you will not make release.

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Ensuring confidence

- Guard against known risks
- Have an undo process
- Improve ways of working

“If we screw up, it has a big impact.”

Mitigating risk: Technical solutions

- Testing
  - Unit tests
  - End to End tests
  - Cross-browser, cross-device tests
- Monitoring
  - Uptime
  - Errors and logs
- Deployments (and rollbacks)

Mitigating risk: How we work

- How we work
  - Pair and Mob programming
  - Multi-role sign-off processes

How to gain confidence

- Reduce your scope
- Abstract your complexity
- Avoid side-effects
- Test
- Monitor
- Build a safety net

Be confident, and you will release.

Final thoughts

Time for some words of wisdom.

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Tomorrow's challenges

We still have challenges.

- We don't want to create bored, unengaged developers
- We want to encourage the right mindset
- We must avoid creating knowledge silos
- We should avoid wasted effort

Takeaways

- Scale
  - has its own risks
  - makes certain ways of working possible
- Delivery
  - relies on confidence
- Confidence
  - comes from testing, monitoring, and ways of working
- Adoption
  - works when it's the path of least resistance
  - works when you're open to collaboration
  - works when it's not restrictive and doesn't disenfranchise people

That’s all folks.

@comparemktech

@TomFoyster

@psyked

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