

Why Database Teams Need Human Factors Training

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About Me

I have around twenty four years of experience with PostgreSQL and databases in many roles – developer, database hacker, dba, and more. I love PostgreSQL's versatility.

About This Talk

- Industry problems
- Areas we can improve

Thanks to

- TimescaleDB — Sponsoring my travel and work on this talk
- Adjust GmbH for where I got this experience
- Delivery Hero, for helping me solidify some of my thinking on this topic

Introduction

Valorizing Fatigue

Fatigue vs Drunkenness

Which is worse? Getting up after 4 hours of sleep? Or having 4 drinks?

A brief history of Human Factors in Aviation

- Human error vs Pilot Error
- Individual responsibility vs collective responsibility
- The Tenerife Disaster and the Dutch Report
- David Beaty's Contributions

Devops/SRE, Automation and Human Error

Automation Paradox

- Automation isn't always the answer!
- Automation can make human error more likely
- Expectation Bias is a real problem
- Some examples.....

Good automation

- Deliberate decision points built in
- Built around the human
- Careful attention to feedback
- Easily integrated into a checklist

Why we make mistakes

- Built-in biases (confirmation, continuation, etc)
- Reversion to prior behavior under stress
- Fatigue
- Missed details due to overload

How to debug the human

- Need a good taxonomy of error types
- Need a good understanding of cognitive biases
- Social factors (coming up!)
- Contextualize the person

Social factors

- Conformity and groupthink
- Power distance and responsibility
- Work relationship

The ideal role of human operators

- Decision-makers
- Good situation awareness
- To do this we need to be capable and well rested!

Conclusions

- We treat human error the way airlines treated pilot error in the 1950s.
- Our industry has a lot to learn
- Great improvements in reliability, performance, and even efficiency are possible

Recommendations

- Bring in aviation trainers for crew resource management with experience training other industries
- Build our own inhouse programs to support this going forward
- Need the organizational commitment to make it better

Questions

Questions?