

# SHIPPING QUALITY SOFTWARE IN HOSTILE ENVIRONMENTS

# WHO?

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# HOSTILE ENVIRONMENTS?

# WHAT IS TECH DEBT?

**TECH DEBT IS THE IMPLIED COST OF  
ADDITIONAL REWORK CAUSED BY  
CHOOSING AN EASY SOLUTION OVER A  
LONGER AND BETTER APPROACH.**

**TECH DEBT IS:**

**AN API THAT RETURNS A LIST OF RESULTS WITHOUT PAGINATION**

**TECH DEBT IS:  
FRAGILE CODE THAT EVERYTHING RUNS THROUGH**

**TECH DEBT IS:  
ENTIRE SYSTEMS THAT HAVE BECOME TOO  
COMPLEX TO CHANGE OR DEPRECATE**



**TECH DEBT IS:  
PARTS OF THE CODEBASE NOBODY WANTS TO TOUCH**

**TECH DEBT IS:**

**BROKEN DEVELOPMENT TOOLS AND PROCESSES**

**LACK OF CONFIDENCE IN THE BUILD AND DEPLOY PROCESS**

**TECH DEBT IS:  
EVERYTHING THE TEAM WISHES THEY COULD CHANGE,  
BUT CAN'T AFFORD TO**

**WHERE DOES IT  
COME FROM?**

**INSUFFICIENT UP-FRONT DEFINITION**  
**TIGHT COUPLING OF COMPONENTS**  
**LACK OF ATTENTION TO THE FOUNDATIONS**  
**EVOLUTION OVER TIME**

**WHAT'S THE HARM?**

**DEVELOPERS ARE JUST SPOILED...**

**FALSE.**



**UNADDRESSED TECH DEBT  
BREEDS MORE TECH DEBT**

**'WE'LL GET BACK TO THAT LATER'**

**'WHY DOES X HAVE TO BE CLEAN, WHEN Y ISN'T?'**

**PRODUCTIVITY OVER TIME DECREASES  
DEADLINES SLIP**

# CASE STUDY

**SO I GET A CALL ONE DAY.**

**WITHIN A FEW DAYS, MY ALARMS START GOING OFF**

# MASSIVE MONOLITHIC GIT REPO

**NO CONCEPT OF STABLE**



# HAND-CRAFTED BUILD SERVER

**NO LOCAL DEV ENVIRONMENTS**  
**EVERYONE WORKS DIRECTLY ON PRODUCTION SYSTEMS**

**NO DB SCHEMA MIGRATION SYSTEM OR VERSIONING**

**OVER 1/2 OF THE SERVERS NOT DEPLOYABLE FROM SCRATCH**

# CODE REVIEW TOOL IS SELF-HOSTED ABANDONWARE

# OUTAGES A DAILY OCCURRENCE

**EVERYONE FOCUSED ON SHIPPING FEATURES**

**HOW DO YOU EVEN BEGIN TO FIX THIS?**



**IT TOOK OVER A YEAR AND A HALF.**

# HOW?

# BUILD SERVER REBUILT FROM SCRATCH

**BUILD AND DEPLOY JOBS DEFINED 100% IN CODE**

# MONOLITHIC GIT REPOSITORY SPLIT UP INTO 40 SMALLER REPOSITORIES

**ALL SERVERS REBUILT AND REDEPLOYED WITH ANSIBLE**

# BETTER CODE REVIEW TOOL

**MOST DEV WORK DOESN'T REQUIRE VPN ANY MORE**



**ETC.**

**JOB WELL DONE!**

**THE MORAL OF THIS STORY IS:**  
**DON'T WAIT FOR PERMISSION TO DO YOUR JOB RIGHT.**

- 1. IF YOU SEE SOMETHING BROKEN, FIX IT**
- 2. IF YOU DON'T HAVE TIME TO FIX IT - WRITE IT DOWN**
- 3. BUT DO COME BACK TO IT WHEN YOU CAN STEAL A MINUTE**
- 4. EVEN IF IT TAKES MONTHS TO MAKE PROGRESS**

**THE TEAM WAS WELL AWARE OF HOW BROKEN THINGS WERE.**

**IF WE PUSHED FOR IT TO BE A SINGLE MASSIVE  
PROJECT, IT WOULD'VE NEVER HAPPENED.**

**EXCEPT...**

**THAT'S NOT HOW THINGS SHOULD BE.**

**HOW DO WE DO BETTER?**



**'TECH DEBT' WORK IS DIFFICULT TO SELL**

**IT'S NOT LIKE PAYING OFF YOUR CREDIT CARD**

**IT'S INCREDIBLY DIFFICULT TO SCHEDULE WORK TO ADDRESS TECH  
DEBT**

**IF YOU DON'T SCHEDULE TIME FOR  
MAINTENANCE, YOUR EQUIPMENT WILL  
SCHEDULE IT FOR YOU**

**I RECENTLY CAME ACROSS AN ARTICLE THAT CHANGED THE WAY I  
THINK ABOUT THIS**

**SPRINTS, MARATHONS AND ROOT CANALS BY GOJKO ADZIC**

**[HTTPS://GOJKO.NET/2018/08/30/SPRINTS-MARATHONS-ROOT-CANALS.HTML](https://gojko.net/2018/08/30/sprints-marathons-root-canals.html)**

**NEW NAME: SUSTAINABILITY WORK**

# BUDGET VS PLANNING



**HELPS WITH MORALE**

**QUESTIONS?**

# THANK YOU!

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