

Never Ever Do a Total Rewrite

Roy Triesscheijn | Spaces Summit | September 30, 2024

bol.



Roy Triesscheijn

Tech Lead Engineering Productivity

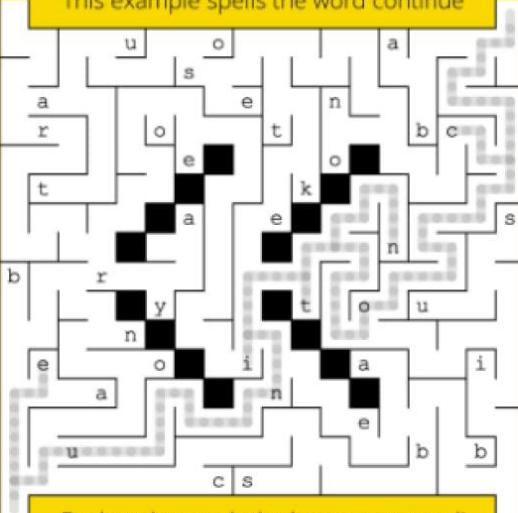
About me

- Technical leadership, programming, videogames, bouldering, parenting
- Biggest challenge in life: weeks have only 168 hours!

C++ Programming Puzzle Book

Solve modern C++ mazewords for a new type of challenge

This example spells the word continue



Backtrack to grab the letters you need!

Plus crosswords to help you understand C++ vocabulary in a fun way

For C++ Developers of All Ages

Path Artist Publishing





GOAL

The word "GOAL" is written in large, bold, black letters. The letter "O" is replaced by a yellow target with three black concentric rings and a single gold arrow hitting the bullseye.

Definition

rewrite

noun

The act of building a new application, from scratch, to functionally replace an existing one.

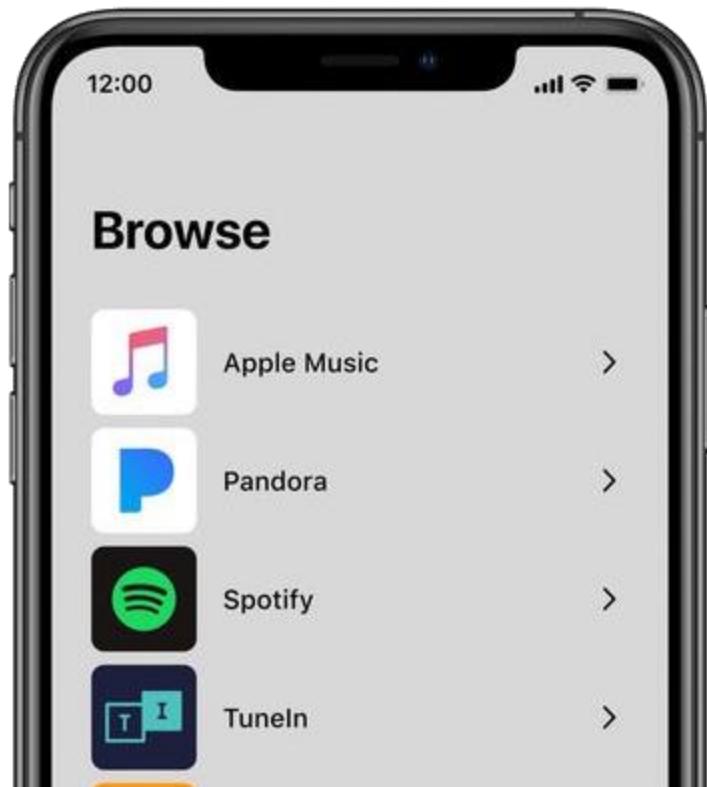
Rewrites

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Basecamp

SONOS





NETSCAPE®

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Rewrites

- Increase the maintenance burden
- Cause large monetary damages
- Are an existential threat to a company
- Don't solve the original problem



Anno 2025

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Autonomous Deliveries

- SPLAT is 50.000 loc

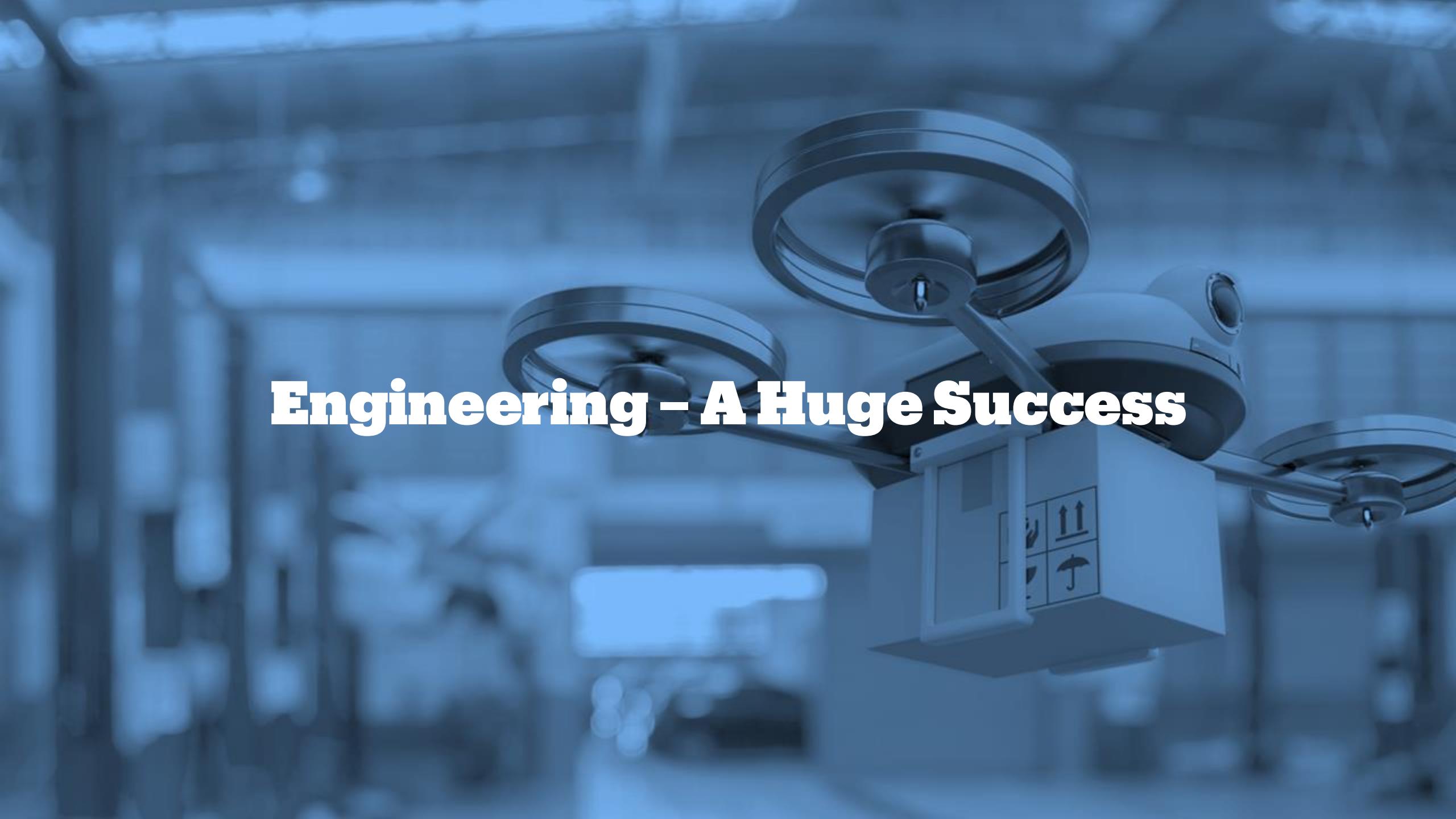


Anno 2030

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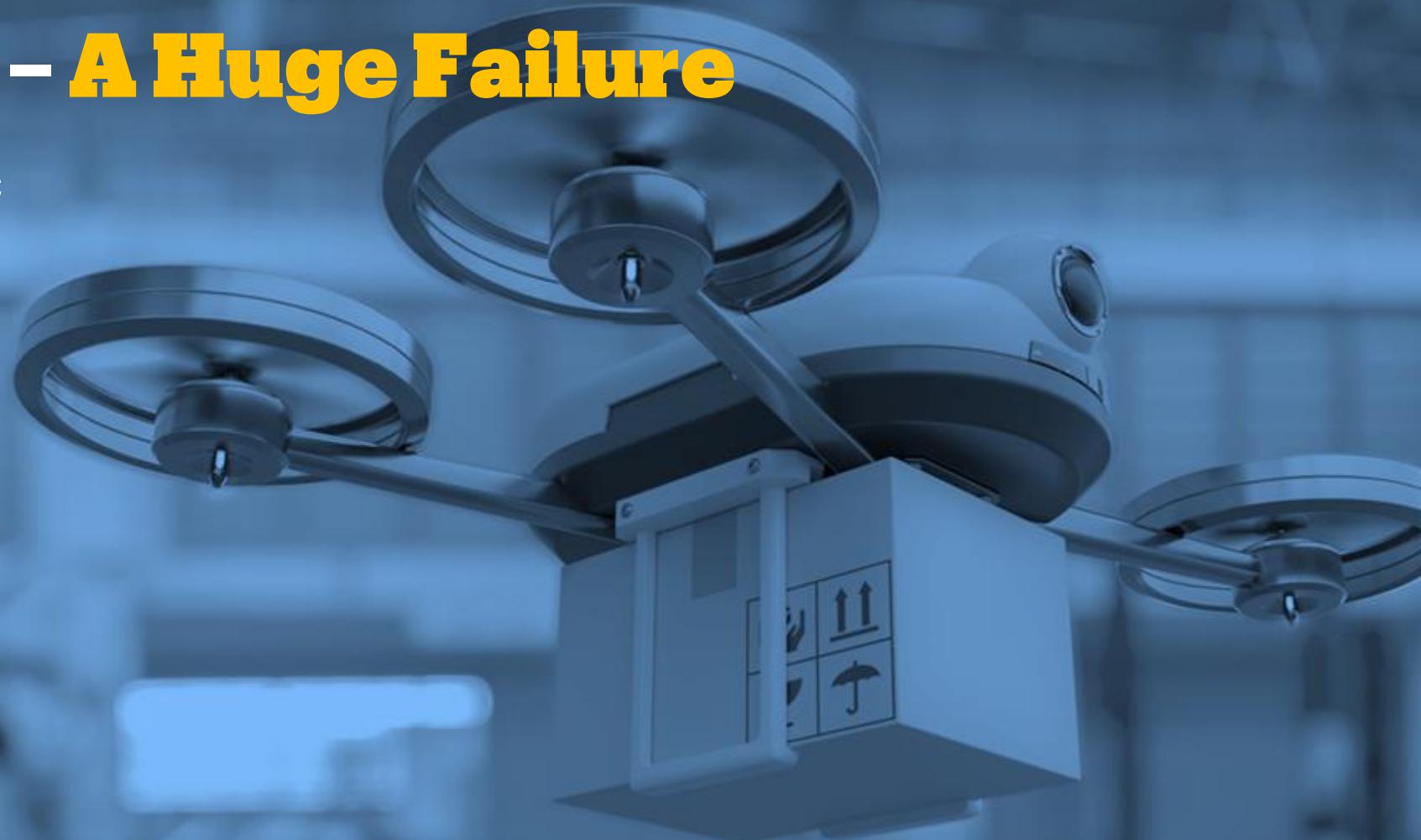
Business – A Huge Success



Engineering – A Huge Success

Engineering – A Huge Failure

- SPLAT is 500.000 loc
- Knowledge gap
- Technical Debt
- Bad practices



The Rewrite



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Plan

- New service, PDC
- Scope: 80% of SPLAT, some new features
- Feature freeze

Timeline

- 6 months, first core feature
- 1 year, satisfy 80% of dependents
- 2 years, decommission SPLAT

6 Months Later



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6 Months Later

- PDC is 10.000 loc
- 0 features completely delivered
- All dependents still connect to SPLAT

Drone Picker



A photograph of a massive, light blue iceberg floating in dark blue water. The iceberg is partially submerged, with its white, textured surface and translucent blue interior visible. In the background, a large, rugged mountain covered in snow and ice rises against a cloudy, overcast sky.

Hidden Complexity

How To Replicate A Feature?

How To Replicate A Feature?

Anno 2037

Place optional summary here

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Anno 2037

- SPLAT is 700.000 loc
- PDC, Missing Features
- PDC, Technical Depth

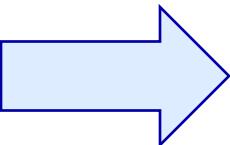


Freeze Fallacy

- Security Vulnerabilities
- Maintenance
- Other Initiatives

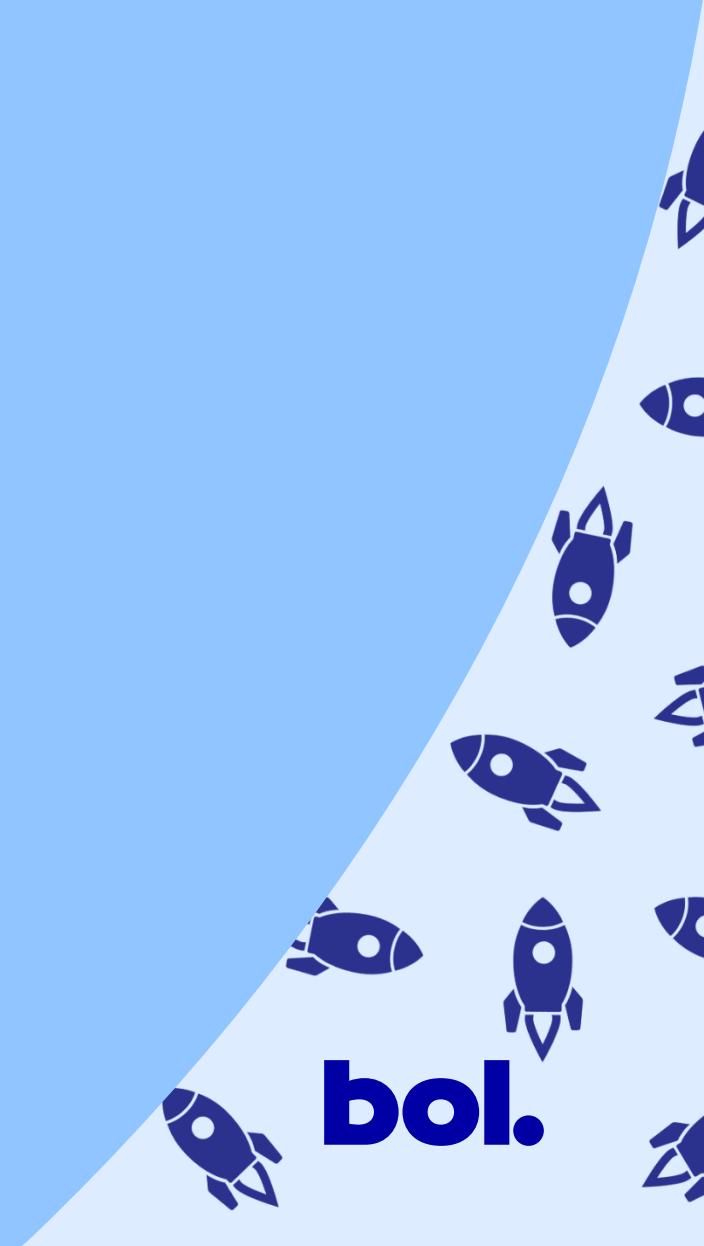


The Second System Effect



Anno 2040

Place optional summary here



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The Outcome

- PDC is 600.000 loc
- Knowledge gap
- Technical Debt
- Bad practices

The background of the image is a wide-angle photograph of a vast ocean. The water is a deep blue-green color, with numerous small white-capped waves. In the foreground, there are larger, more powerful waves breaking, creating white foam. The sky above the horizon is clear and light blue.

Different Tech; Same Organization

The Alternative

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Reasons for a Rewrite

As an engineer...

I find it hard to make changes to my application

Developer Experience



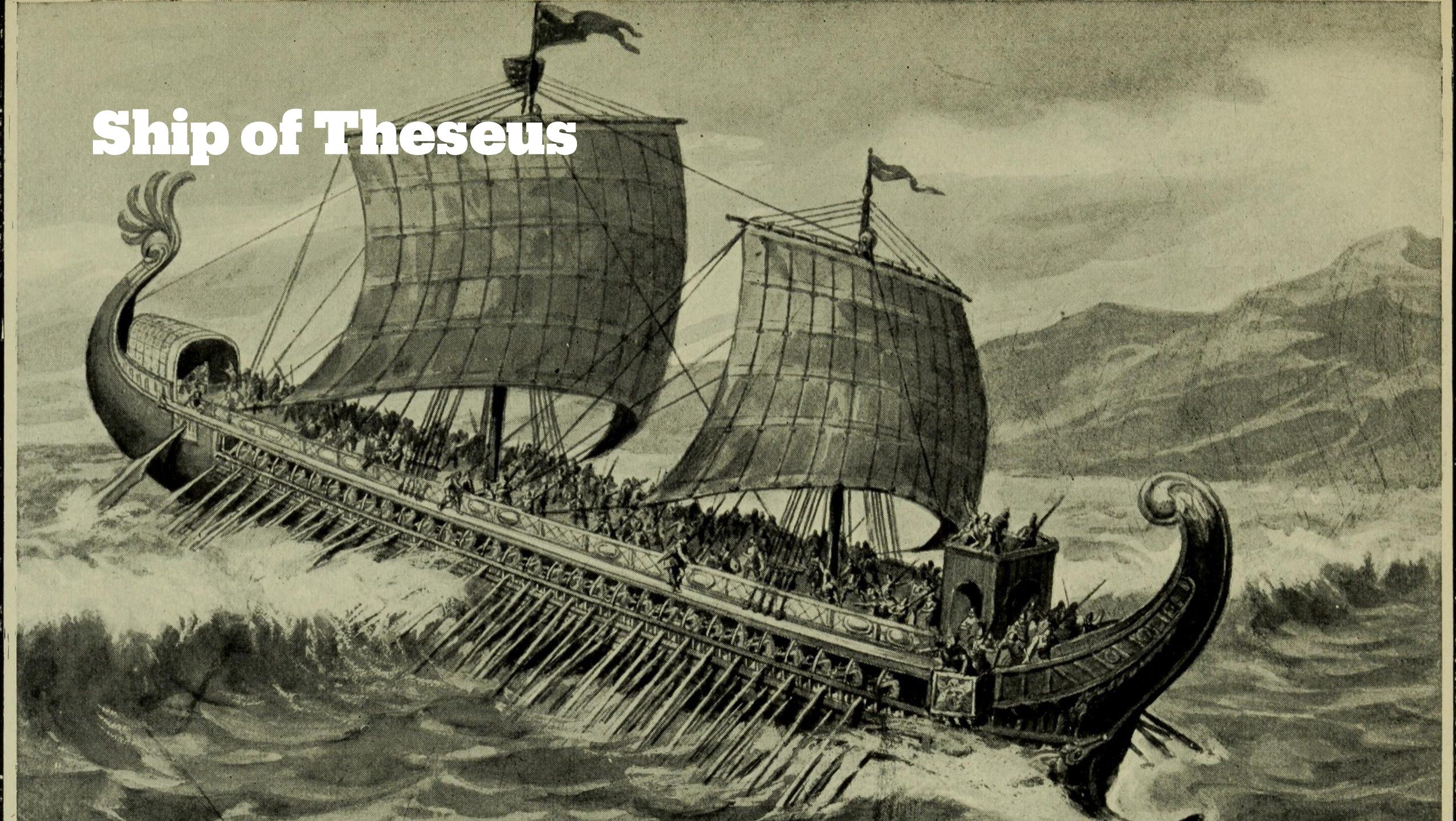
Identify The Worst Parts



Isolate



Ship of Theseus



Strangler Fig Pattern



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Recap

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Dangers of Rewrites

- Increase the maintenance burden
- Cause large monetary damages
- Are an existential threat to a company
- Don't solve the original problem

Why Rewrites Fail

- Deliver value at the latest possible moment
- Hidden Complexity
- Freeze Fallacy
- Second System Effect
- Changing technology instead of habits

Benefits of Incremental Changes

- Deliver value at the earliest possible moment
- Divide and Conquer
- Development is slowed, but not stopped
- Focused on where it hurts
- Change habits instead of technology

Apply This Knowledge Now!

- Accelerate Tech Impact
- Domain Driven Design
- Architecture Decision Records
- Organizational Changes

**Never Ever
Do a Total Rewrite**

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Thank you!

