

bol.
Spaces Summit ∞

Never Ever Do a Total Rewrite

Roy Triesscheijn | Spaces Summit | September 30, 2024

bol.



Roy Triesscheijn

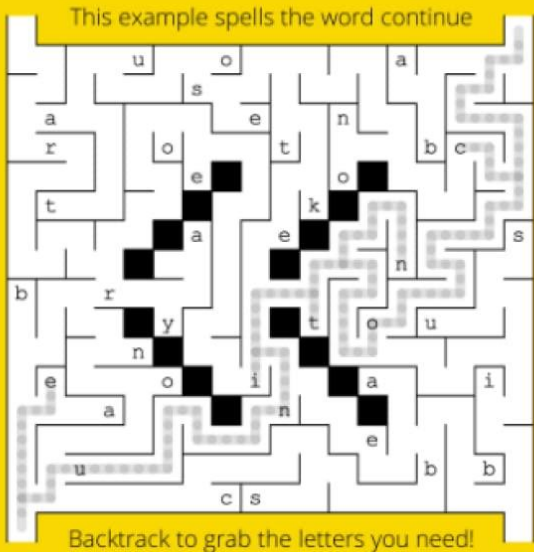
Tech Lead Engineering Productivity

About me

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

C++ Programming Puzzle Book

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



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 rendered in a bold, dark brown, 3D sans-serif font. The letter "O" is substituted with a circular target featuring concentric rings. A single dart with a light brown shaft and a white fletching is shown hitting the center bullseye of the target. The entire graphic is set against a plain white background.

Definition

rewrite

noun

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

Rewrites

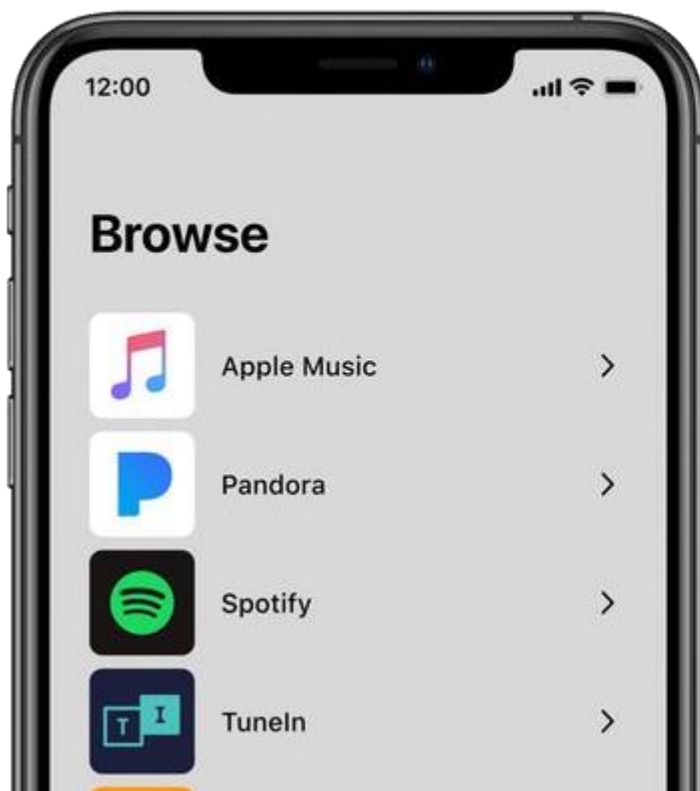
bol.





Basecamp

SONOS





NETSCAPE®

bol.

Rewrites

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



Anno 2025

bol.



Autonomous Deliveries

- SPLAT is 50.000 loc



Anno 2030

bol.





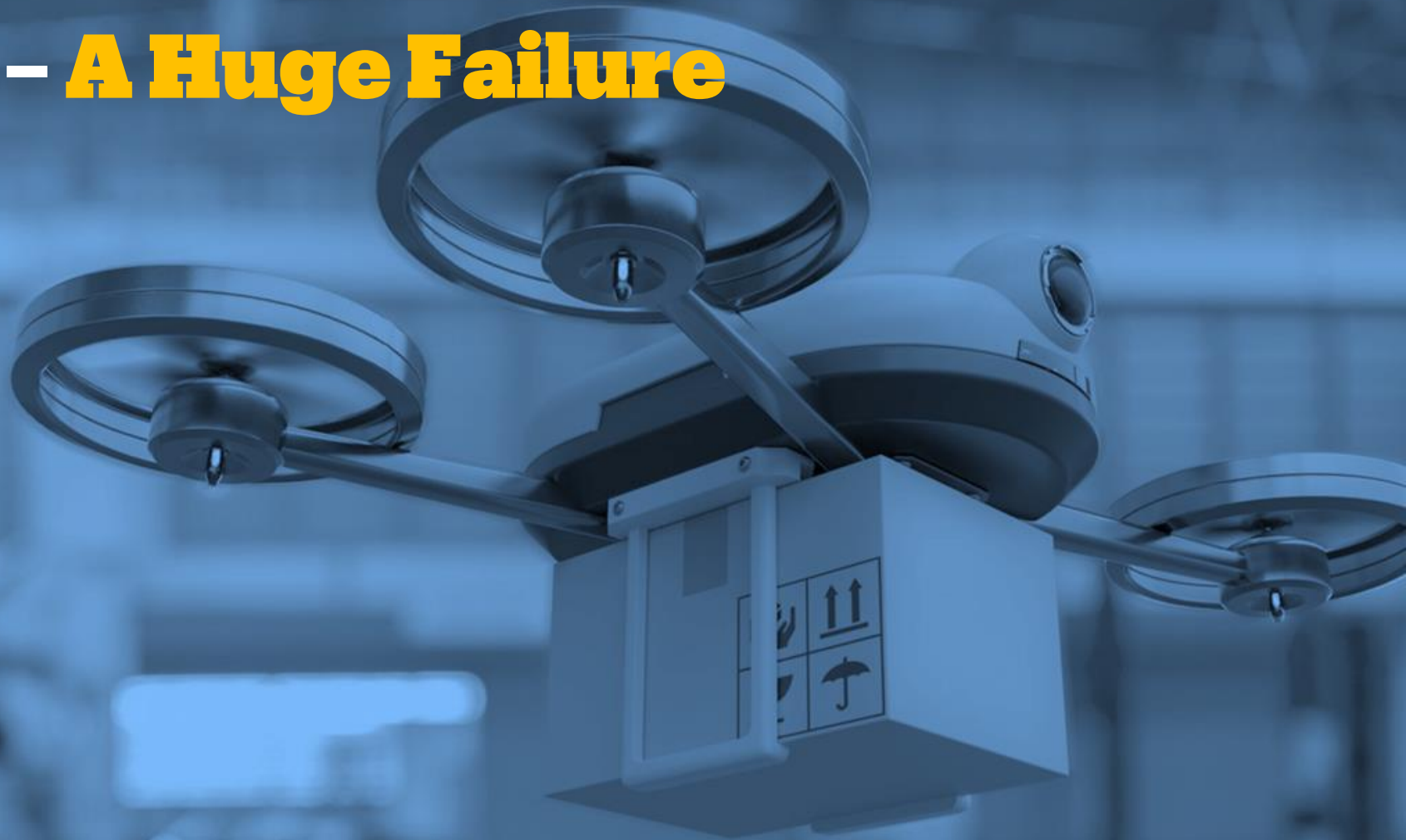
Business – A Huge Success

Engineering – A Huge Success



Engineering – A Huge Failure

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



The Rewrite

bol.



Plan

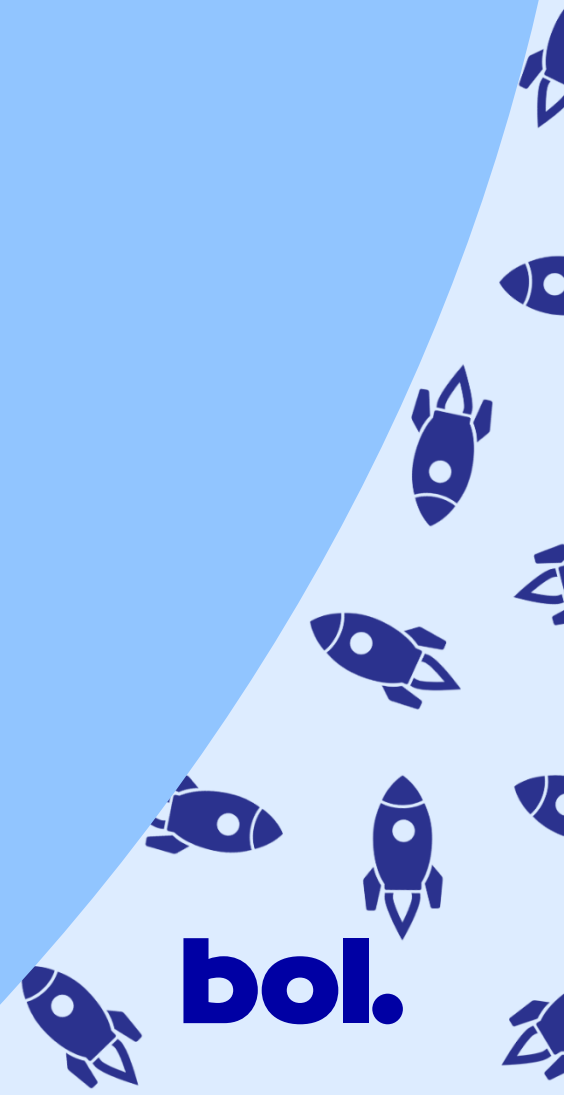
- New service, PDC
- Scope: 80% of SPLAT, some new features
- Feature freeze

Timeline

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

6 Months Later

bol.



6 Months Later

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

Drone Picker



A photograph of an iceberg floating in the ocean. The visible tip of the iceberg is white and jagged, while the much larger submerged portion is a deep, translucent blue. The text "Hidden Complexity" is overlaid in the center. In the background, a dark, rocky coastline is visible under a cloudy sky.

Hidden Complexity

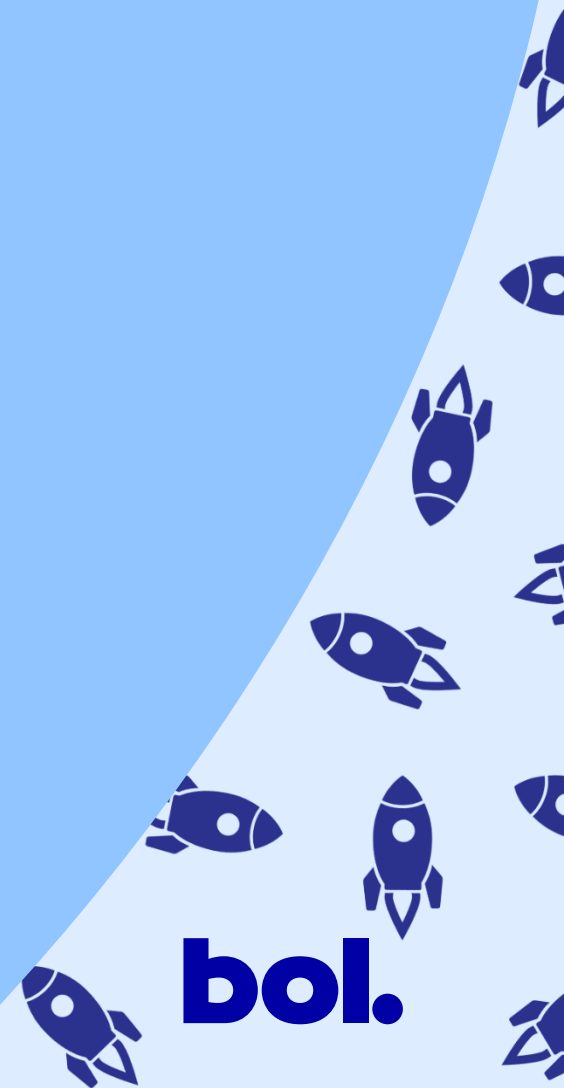
How To Replicate A Feature?

HOW TO REPLICATE A FEATURE?

Anno 2037

Place optional summary here

bol.



Anno 2037

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

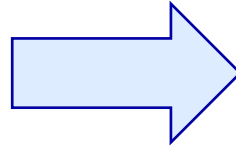


Freeze Fallacy

- Security Vulnerabilities
- Maintenance
- Other Initiatives



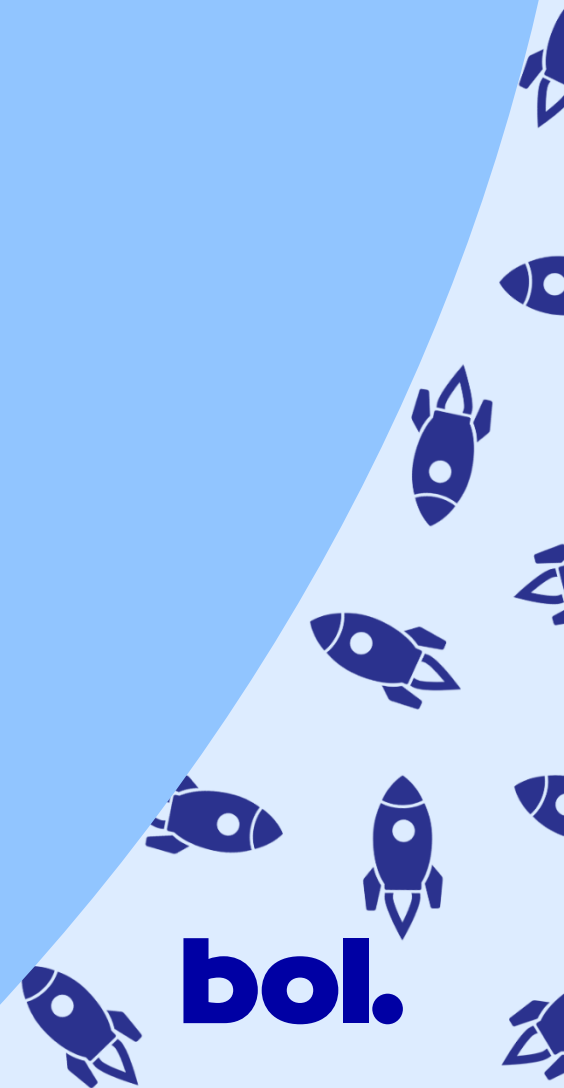
The Second System Effect



Anno 2040

Place optional summary here

bol.



The Outcome

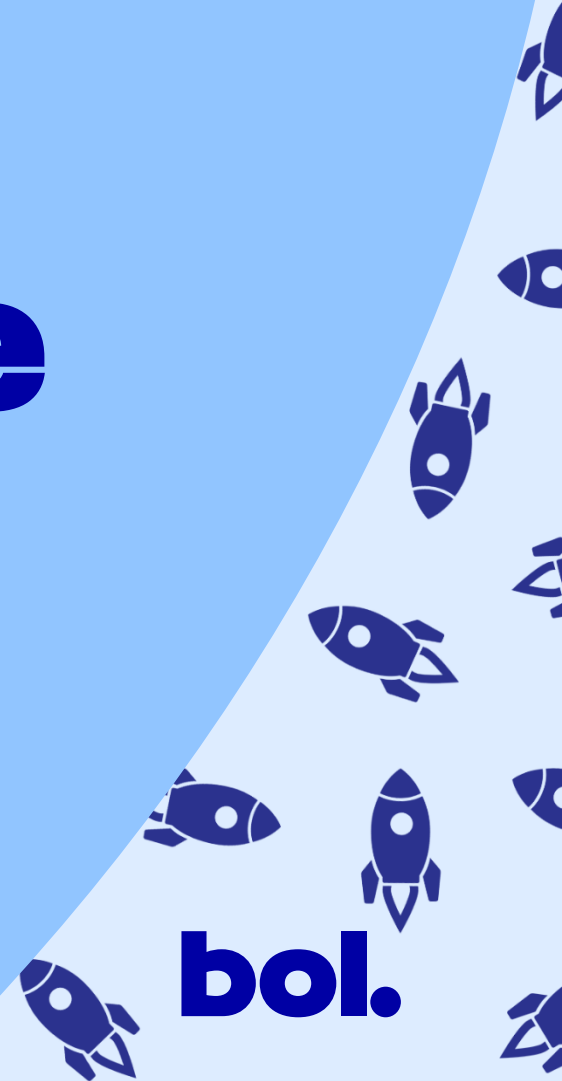
- PDC is 600.000 loc
- Knowledge gap
- Technical Debt
- Bad practices



Different Tech; Same Organization

The Alternative

bol.



Reasons for a Rewrite

As an engineer...

I find it hard to make changes to my application

Developer Experience



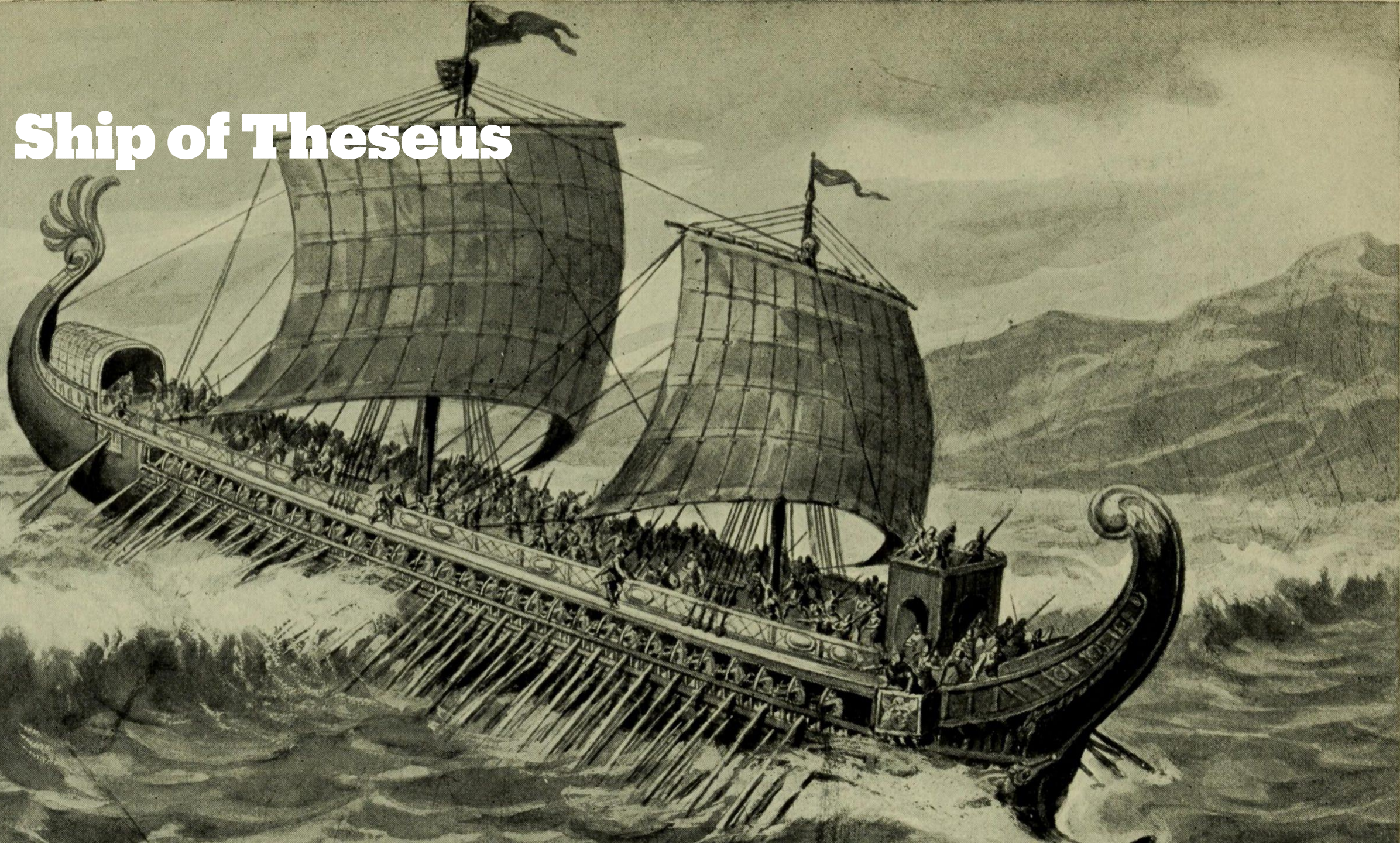
Identify The Worst Parts



Isolate



Ship of Theseus



Strangler Fig Pattern



Agile Agile Agile Agile Agile Agile Agile Agile

Agile Agile Agile Agile Agile Agile Agile Agile

Agile Agile Agile Agile Agile Agile Agile Agile

Agile Agile Agile Agile Agile Agile Agile Agile

Agile Agile Agile Agile Agile Agile Agile Agile

Agile Agile Agile Agile Agile Agile Agile Agile

Agile Agile Agile Agile Agile Agile Agile Agile

Agile Agile Agile Agile Agile Agile Agile Agile

Agile Agile Agile Agile Agile Agile Agile Agile

Agile Agile Agile Agile Agile Agile Agile Agile

Agile Agile Agile Agile Agile Agile Agile Agile

Recap

bol.



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**

bol.

Thank you!

