How to rewrite an old project and stay alive

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Hi.

I am Dalia Simons
AGENDA

Why Do we have them?
To rewrite or not to rewrite?
Step by Step guide
What else to think of
To rewrite
Or not to rewrite
Once Upon a Time
Dragons are Born
The Plot Thickens

public
users
editor
more
The Time has Come
Other magical creatures

dragon
dinosaur
Why we get them confused

- They’re old
- They’re not tested
- Their code base is a mess
What you should be asking

Is it alive?

...and growing?

yes

dragon

dinosaur

no
What do we do with Dinosaurs?
What should we do with dinosaurs?

Rewrite?

Do Nothing?
A project is not an island

A project we interact with changes its API

A 3rd party library has an important security fix

You find a bug that requires urgent fixing

External technologies might by upgraded across the co’

Maintenance (balance) is the key

- **x Rewrite**: (costly) technical debt
- **x Do Nothing**: (harmful) decay
Back to Dragons. Where to start?
Allocate Resources

- Development velocity
- Product opportunities
- Production debugging
Allocate Resources

Step 1

Choosing your champions
The show must go on
The show must go on

Old

New

DB

Shared data
The show must go on

**Step 2**

Old | New
---|---
DB | DAO

**Shared data**

#1

#2
The show must go on
Step 2

The show must go on

Shared data

1 flow at a time

Old | New
Step 2

The show must go on

Shared data
1 flow at a time

New features - in the new system
Step 3

Identify your flows
Step 3
Identify your flows

Monitor what’s active
Identify your flows

Monitor what’s active
What does the core do?
Start with what you’re sure of

Old

Domains
Packages
Applications
Mailboxes
Wix Pics

Purchase
Manage
Notifications
Backoffice
Identify your flows

Monitor what’s active
What does the core do?
Start with what you’re sure of

Move slow - main flows first

- Domains
- Packages
- Applications
- Mailboxes
- Wix Pics

- Purchase
- Manage
- Notifications
- Backoffice
Discuss your limitations

Step 4

Do you need them? Where?
- Technologies
- Other projects
- Hardware

Old

- Domains
- Packages
- Applications
- Mailboxes
- Wix Pics

Purchase
- Manage
- Notifications
- Backoffice
Now is the time to plan your architecture

- **Step 1**: Allocate resources
- **Step 2**: Shared data
- **Step 3**: Identify flows
- **Step 4**: Discuss limitations

To micro-service or not to micro-service?
Now is the time to plan your architecture

Step 1: Allocate resources
Step 2: Shared data
Step 3: Identify flows
Step 4: Discuss limitations

To micro-service or not to micro-service?
Which technologies to use?
Step 5

For each flow

Understand what the old code does

Don’t take anything for granted - ask why
Step 5

For each flow

Understand what the old code does
Don’t take anything for granted - ask why

Write tests first - E2E, then unit tests
For each flow

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Copy the code, see if it passes
For each flow

Step 5

Understand what the old code does
Don’t take anything for granted - ask why
Write tests first - E2E, then unit tests
Copy the code, see if it passes

Refactor
Step 6

Slowly and gradually, shift traffic

Think where to place the experiment
Move slow, save a hop when possible
Open experiments for QA on production
Caring for the old system

Keep it under CI
- Build is always green
- Deploy to prod regularly

Keep up to date with dependencies
Caring for the old system

Urgent fixes

Small fixes

Big fixes?

Removing old code?

Old Purchase

New Purchase

Editor
Publish
My account
Email
Stay Committed to the end

Step 1: Allocate resources
Step 2: Shared data
Step 3: Identify flows
Step 4: Discuss limitations
Step 5: Test & Code each flow
Step 6: Gradually move traffic
Stay Committed

The point of no return

is when your customers are going to feel a difference in the service they’re getting.
Celebrate Progress

Moving a flow, reaching new traffic peaks, everything can be a reason to celebrate with the team.
What’s Next
Grab your sword and shield

have courage and patience

...and get going.

A journey of a thousand miles begins with a single step
Thank You

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