Recycle, Reuse, Rebuild: Transformative Tactics for Turning Your Brownfields Green

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All About Adam

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- Self-taught web craftsperson since '98
- Tech industry "Dinosaur"
- Founded Juranosaurus Techs in '21
- "Fractional" CTO
- Currently, Director of Engineering for OK Capsule

Navigating Our Session

1. The Legacy Challenge
2. Unlocking Transformation
3. Navigating JavaScript Evolution
4. Empowering Development
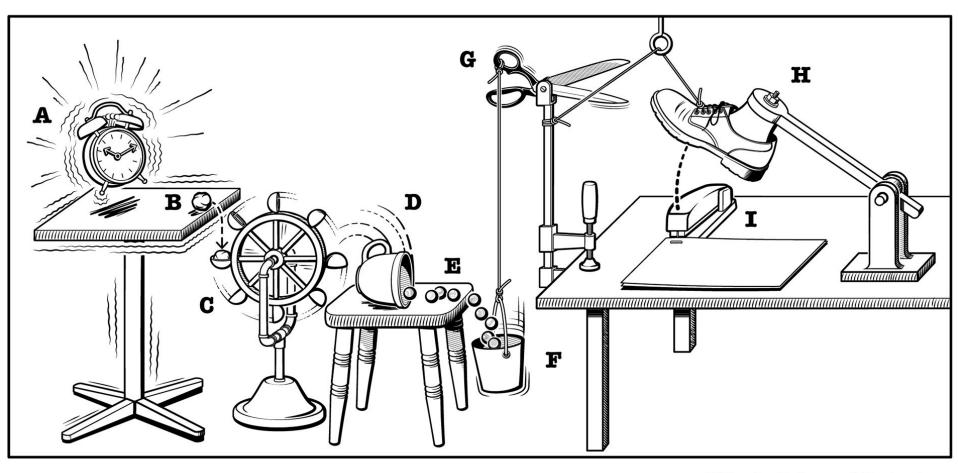5. Case Study - Overcoming Vendor Lock-In
6. Q&A and Wrap-Up

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The Legacy Challenge

- Physical product →
- Regulatory compliance (FDA)
- Salesforce as everything (CRM, ERP, API, integrations, etc)
- Shopify app
- Modest AWS infrastructure (Lambdas, EC2, RDS)
- Massive tech debt (MVPs, POCs, and band-aids, oh my!)

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Unlocking Transformation

- **Embrace the Journey:** Transformation is a path, not a destination.
- **Beyond the Temptation:** Resist the urge to 'burn it all down.'
- **Strategic "Middle Path":** Balance innovation with reliability for improved efficiency, scalability, and future-ready legacy systems.

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The Temptation to "Burn It All Down"

- **"Resisting Temptation":** Starting over often *looks* easier, but rewrites are less magical fixes, they're more akin to opening Pandora's box.
- **"If It Ain't Broke...":** The underrated charm of "it just works," despite its quirks.
- **Risks of Restarting:** Opportunity cost, knowledge gaps, unforeseen complexity.
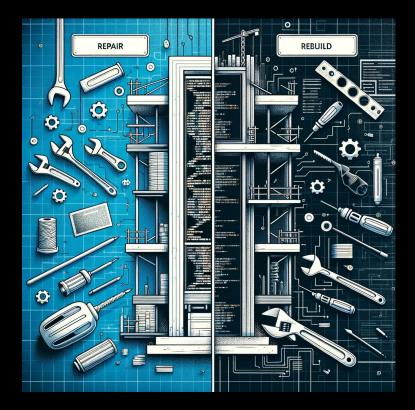
The Strategic "Middle Path"

- **Assess and Leverage:** Identify and enhance valuable legacy components.
- **Strategic Integration:** Combine old and new for improved performance.
- **Balance and Incremental Change:** Merge innovation with reliability.

Navigating Solution Evolution

- **Loosely Coupled Systems:** Prioritize modular design for flexibility and scalability.
- **Repair vs. Rebuild:** Evaluate business value and future-readiness to inform decisions.
- **Open Source vs. Custom Solutions:** Leverage the best of both for innovation and control.

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Empowering Development

- **Viewing Brownfields as Opportunities:** Encourage a mindset shift to see potential in legacy systems.
- **Strategic Transformation:** Apply targeted strategies for sustainable, efficient landscapes.
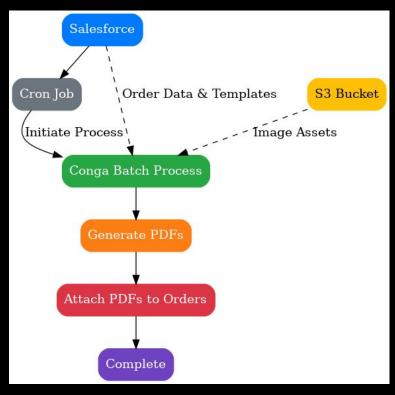- **Community Wisdom:** Share and leverage collective experiences for broader insights.

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Case Study - Overcoming Vendor Lock-In

1. The Problem
2. The Opportunity: Recycle, Rebuild, Reuse
3. The Outcome: Before and After
4. Lessons Learned and Key Takeaways

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The Problem: Conga Rate Increase!

- **Dependence on Conga:** Exposed by rate increase, highlighting operational vulnerability.
- **Financial Strain:** The rate hike's immediate impact on budget and planning.
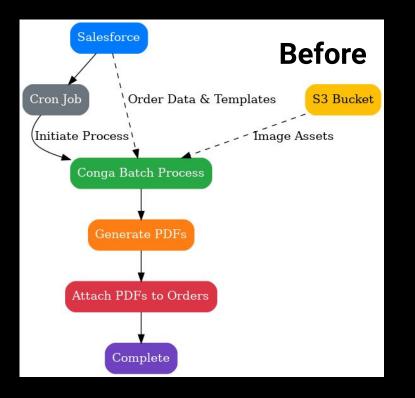

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The Opportunity: Recycle, Rebuild, Reuse

- **Strategic Decision:** Opting to reverse engineer Conga's templating mechanism.
- **Leverage Open Source Libraries:**
  - Joi
  - Pug
  - Node
  - Eslint
  - Prettier
  - Playwright

- **Recycle**
  - Extend existing Panel app to output product pamphlets in addition to nutrition fact panels.
- **Reuse**
  - Use existing visual assets
  - Copy dynamic text and style data from MS Word (Conga) templates to new DB table.
- **Rebuild**
  - New architecture allows for multiple dynamic text blocks per page
  - New API endpoint with Joi schema validation and JWT authentication
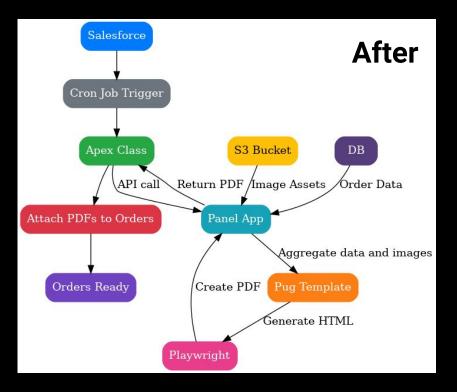 - Lay foundation for client-facing pamphlet creation UI

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The Outcome: Before and After

Before

After

Lessons Learned and Key Takeaways

- **Valuing Independence:** The importance of minimizing vendor lock-in.
- **Creative Problem-Solving:** Leveraging constraints as catalysts for innovation.
- **Strategic Flexibility:** The benefit of adaptable, future-oriented planning.
- **Open Source FTW:** OS libraries made our solution possible

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Thank you!

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