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ALL DAY DEVOPS

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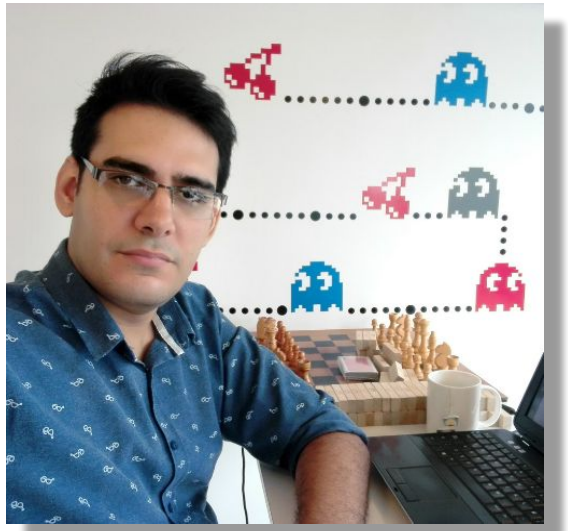
Jorge Pais

Automate or NOT from the beginning, that is the question...

Who we are?

Enrique Carbonell



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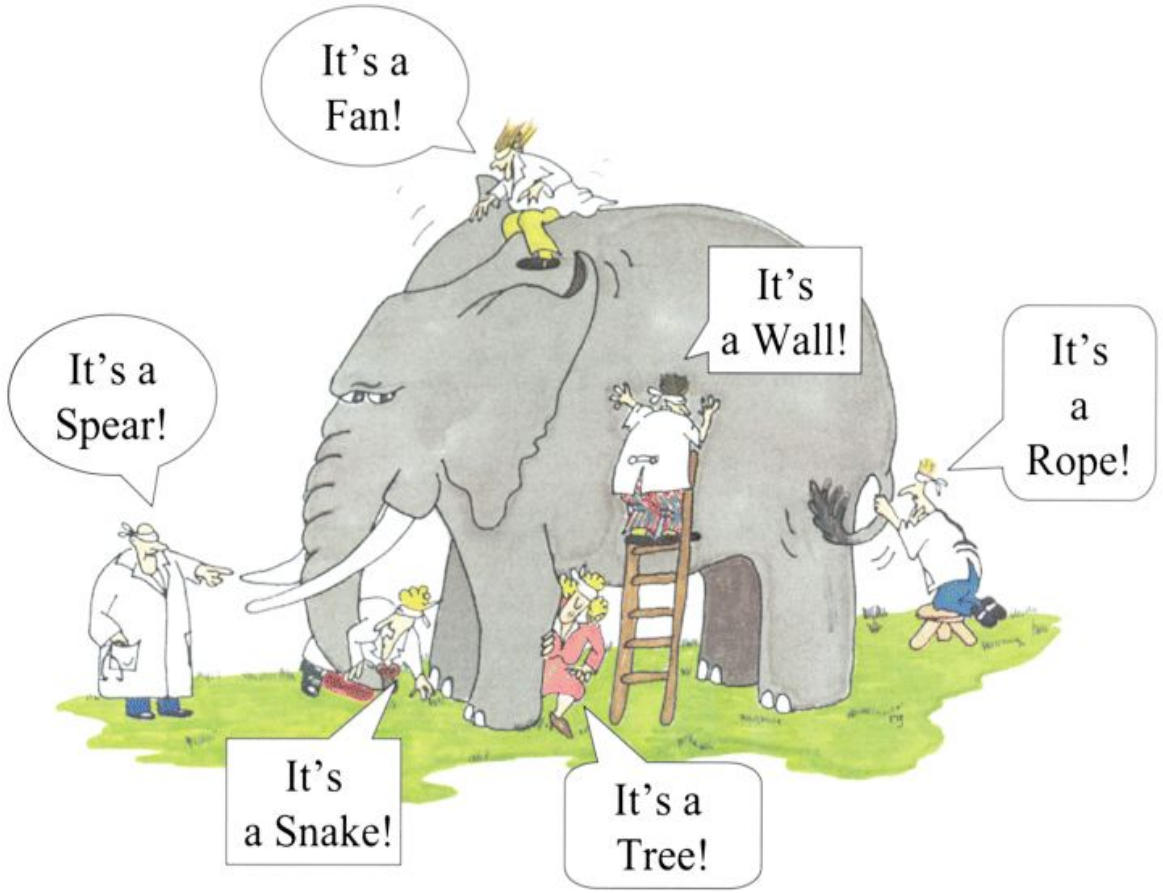
Our Team!

pyxis

Agenda

- DevOps and adoption
- What *(we think)* clients want
- Impulse a DevOps Transformation
- How does automation fit in?
- Lessons learned

‘DevOps’ is still a buzzword?



"Our" definition

*"A **cross-functional** community of practice dedicated to building, evolving and operating **rapidly changing**, **secure**, **resilient systems** at scale"*

Nicole Forsgren & Jezz Humble

Where to start?

"Hire a SUPER DevOps"

"Create a new role with the same knowledge"

"Buy a toolset"

"Certificate employees"

"IaC projects"

"Build fast"

"Pipelines"

"Cloud"

"Continuous testing"

"Docker"

"Microservices"

"K8S"

Automation doesn't make you a DevOps!

Automation doesn't make you a DevOps!

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DevOps is strongly associated with automation.

For **Ops** teams, automation is a **must** for successful daily operations.

In our experience, **Ops** acts as the main advocate for internal DevOps transformation.

Automation allows for fast victories.

DevOps is strongly associated with automation – and it's a good thing!

Reduces waste created from executing repetitive, cumbersome tasks.

Impulses people's personal growth by allowing them to perform more valuable activities.

Helps to precisely define, test and execute processes on a consistent way.

But, what are we missing?

DevOps is much more than automation

- Aim for business goals.
- How teams see themselves working towards those goals?
- Enable experimentation.

Some organizations intend to implement tools and get ‘textbook’ DevOps results.

You **cannot buy** cultural transformation. You **cannot impose** cultural transformation. You **build** cultural transformation.

Client perspective

More, with less.

DevOps as a silver bullet to mitigate or transform ‘something’ that hurts the organization.

Show quick wins.

How long and **how much** does it take to do DevOps?

Impulse a DevOps transformation

It’s important to that every change is made based on informed decisions.

Include analytics to gain insights on processes’ performance.

Involve all people participating in the process (and aim for consensus).

Use value stream mapping technique to formalize everyone’s vision of the process.

Step 1 - Goals and metrics

Determine the main goals of the organization and break it down in more concrete and measurable sub-goals.

“If You Don't Know Where You're Going, It Doesn't Matter How Fast You Get There”

Nicole Forsgren & Jez Humble

Step 1 – Goals and metrics

Some metrics are predictors of organizational performance:

Velocity:
- Delivery lead time
- Deployment frequency

Stability
- Time to restore service
- Change fail rate

Step 2 – Characterize the process

All the involved people collaborate to take a snapshot of the current process.

Use value stream mapping concepts.

Define metrics for identified activities, aligned with global metrics.

Evaluate the process using the Continuous Delivery maturity matrix (Jez Humble & David Farley)

Step 2 – Characterize the process

Practice	Build management and continuous integration	Environments and deployment	Release management and compliance	Testing	Data management
Level 3 - Optimizing: Focus on process improvement	Teams regularly meet to discuss integration problems and resolve them with automation, faster feedback, and better visibility.	All environments managed effectively. Provisioning fully automated. Virtualization used if applicable.	Operations and delivery teams regularly collaborate to manage risks and reduce cycle time.	Production rollbacks rare. Defects found and fixed immediately.	Release to release feedback loop of database performance and deployment process.
Level 2 - Quantitatively managed: Process measured and controlled	Build metrics gathered, made visible, and acted on. Builds are not left broken.	Orchestrated deployments managed. Release and rollback processes tested.	Environment and application health monitored and proactively managed. Cycle time monitored.	Quality metrics and trends tracked. Non functional requirements defined and measured.	Database upgrades and rollbacks tested with every deployment. Database performance monitored and optimized.
Level 1 - Consistent: Automated processes applied across whole application lifecycle	Automated build and test cycle every time a change is committed. Dependencies managed. Re-use of scripts and tools.	Fully automated, self-service push-button process for deploying software. Same process to deploy to every environment.	Change management and approvals processes defined and enforced. Regulatory and compliance conditions met.	Automated unit and acceptance tests, the latter written with testers. Testing part of development process.	Database changes performed automatically as part of deployment process.
Level 0 – Repeatable: Process documented and partly automated	Regular automated build and testing. Any build can be re-created from source control using automated process.	Automated deployment to some environments. Creation of new environments is cheap. All configuration externalized / versioned	Painful and infrequent, but reliable, releases. Limited traceability from requirements to release.	Automated tests written as part of story development.	Changes to databases done with automated scripts versioned with application.
Level -1 – Regressive: processes unrepeatable, poorly controlled, and reactive	Manual processes for building software. No management of artifacts and reports.	Manual process for deploying software. Environment-specific binaries. Environments provisioned manually.	Infrequent and unreliable releases.	Manual testing after development.	Data migrations unversioned and performed manually.

Continuous Delivery maturity model - **Continuous Delivery: Reliable Software Releases through Build, Test, and Deployment Automation** by Jez Humble & David Farley

Step 3 – Analyze

Measure and evaluate.

Identify waste and improvements.

Check for bottlenecks. Find out their cause and decide how to remove them.

Many times a small change in the process has the bigger and most immediate impact.

Step 4 – Tooling

Select the tools and technologies that will help to reduce waste, remove bottlenecks and improve the process.

Don’t choose tools based solely on existing knowledge, current systems or technology trends.

Step 5 – Execute

Design work iterations to attack identified problems.

How should I start?

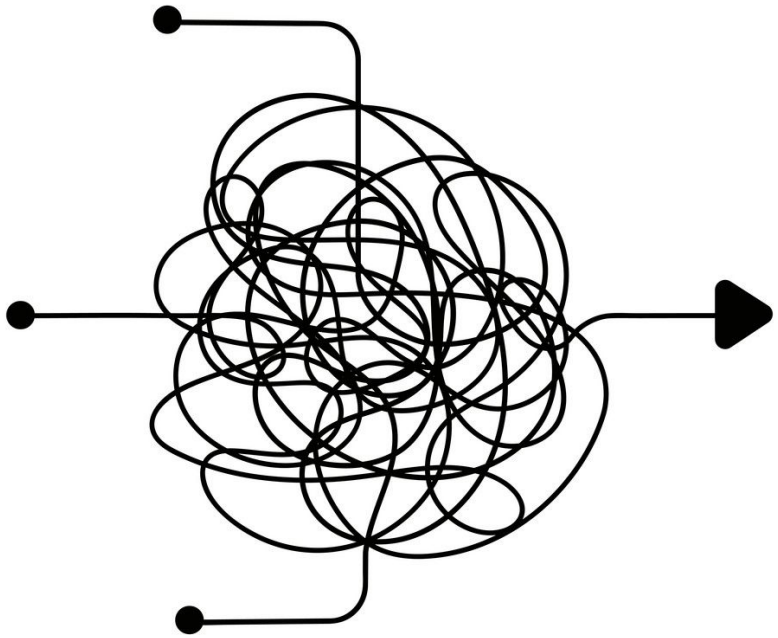
- Horizontally – From start to end.
- Vertically – One subprocess at a time.

Depends on the organization maturity and resources.

Challenges

Adoption is more complicated in chaotic processes because metrics are hard to obtain.

Might need to transform the process by including a new Definition of Done on each stage and/or quality gates.

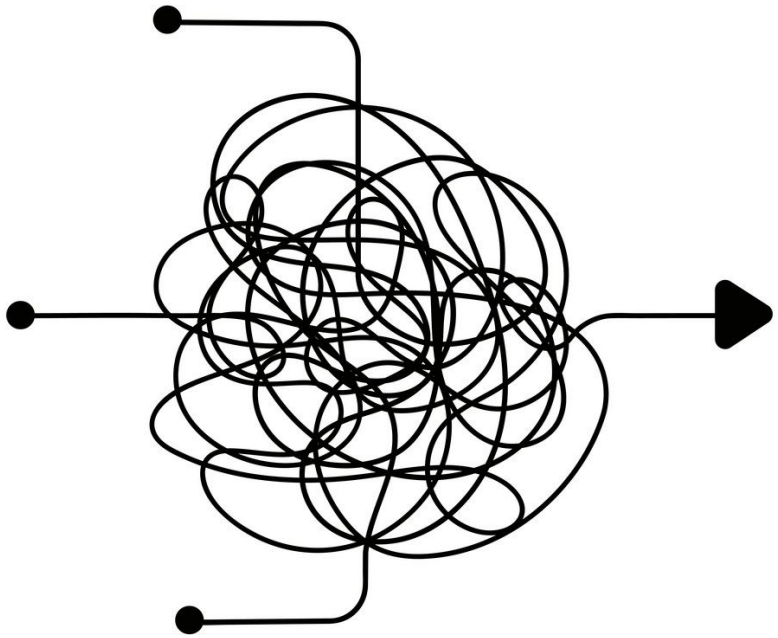


Challenges

C-Level understanding about how small operational changes impact business goals.

Customer might not see the value of the initial evaluation/measurement and ends up increasing workforce to automate everything.

Needs string internal sponsorship.



Lessons learned

- Create a short-term plan, iterate and gather feedback continuously.
- Do not prioritize automation to people and processes.
- Adopt technologies expecting experimentation.
- Automate as much as possible != automate everything.
- **Solve one problem at a time.**

Lessons learned

- Do not automate just because the cool kids are doing it.
- Do not automate before analyzing goals, restrictions and the process itself. Make **informed decisions**!
- Don’t copy the model...your company and your teams are **unique**!
- Identify **technical key players**: people willing and eager to change and share but also with strong technical skills.

Lessons learned

DevOps Is *More* Than Just Automation

img ref: devops.com

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