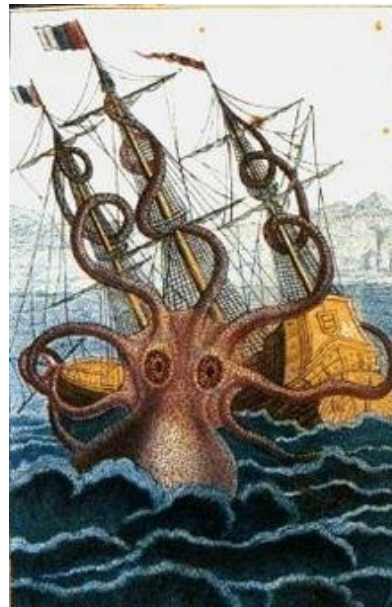


Taming the Kraken

How operations enables developer productivity

Nathen Harvey
CustomInk
@nathenharvey



CustomInk



IT'S
EASY & FUN

Design custom t-shirts and more online.

Get Started

CustomInk



CustomInk



CustomInk



T-SHIRTS
UNITE!

Custom tees bring people together.

Get Started

CustomInk

- Founded in 1999
- 40+ million requests to our app servers each week
- Over 1 million customers



How it used to be

- One team working on a few applications simultaneously
- Two-week sprints
- Operations team deploys the code at the end of each sprint

It worked relatively well except...

- There were often merge conflicts which lead to... merge conflicts
- Small changes sat for days waiting to be deployed

It worked relatively well except...

- Deploys were often rolled back because of an issue with one part of the new code
- Our team grew

You might have a problem if...

A deploy is like the High School Prom



Deploy is like Prom if...

Happens infrequently



Deploy is like Prom if...

The build-up is bigger than the result



Deploy is like Prom if...

Lots of ceremony



Other problem indicators...

"All hands on deck"



Other problem indicators...

Office pools for when `cap deploy:rollback` will happen

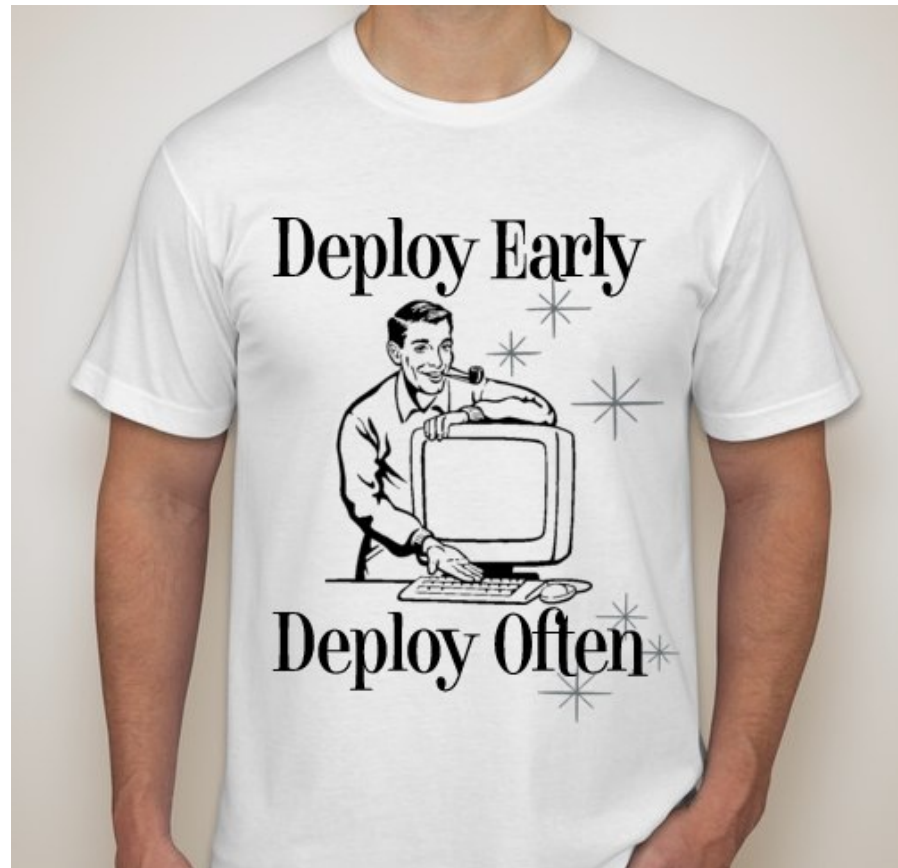
#	#	#	#	#	#	#	#	#	#	#
#										
#										
#										
#										
#										

Other problem indicators...

You've considered ordering custom t-shirts for the team to celebrate the deploy



How can you fix this?



Ship it!

- Deploy small, independent changes
- Deploy when change is ready

Change the Process

Redefine "done"

Move from sprints to Kanban

Change the Process

Emphasize minimizing work in process

Product managers help prioritize the work
to be done

Disposable Servers

- Staging and verifying many small changes in one or two staging environments doesn't work
- Each topic branch must have its own staging environment

Disposable Servers

- Short-lived branches need short-lived staging environments
- Only feasible way is via automation

Infrastructure as Code

- Enable the reconstruction of the business from nothing but
 - a source code repository
 - an application data backup
 - and bare metal resources

-Jesse Robins, Opscode

Infrastructure as Code

- Custom scripts
- Custom scripts + Capistrano
- CFEngine, Puppet
- Chef

Chef

- First, come up with your policy / specification
- Abstract the **resources** in your spec
- Write **recipes**
- Package recipes in **cookbooks**
- Apply recipes to **nodes**

Getting better...

- Change the process
- Automation for disposable servers

Development Environments

Vagrant

**Virtualized development made
easy.**

Create and configure lightweight, reproducible, and
portable development environments.

Download Now



Let the Vagrants gather!

- Hobo Jungle
- One git repository with a Vagrantfile for launching each application



Testing every topic branch

"master" is ALWAYS deployable
We use Jenkins to test every branch
Custom Capistrano scripts make it easy!

```
cap jenkins:create  
cap jenkins:build  
cap jenkins:status  
cap jenkins:console  
cap jenkins:delete
```

Greenscreen

Big Visible Chart (BVC) to monitor our builds

Sinatra app with simple configuration

Green Screen

- Canary
about 1 month ago
- Catalog Integration
6 days ago
- Clipart Management
about 1 hour ago
- Dod Tracking System
10 months ago
- Frontend Master
7 days ago
- Highlander
8 days ago
- INK.js
about 1 month ago
- lotw
10 days ago
- Navigation Builder
3 months ago
- Order Analysis
8 months ago
- Order Service
about 1 month ago
- Sales
10 days ago
- Site Content
8 months ago
- Style Guide
16 days ago
- Test
about 1 month ago
- The Oven



All projects have been built successfully.

Green Screen



Getting better...

- Change the process
- Automation for disposable servers
- Easy development environments
- Testing every branch

Deploying the Apps

- Wait, how many apps does it take to make a custom t-shirt?

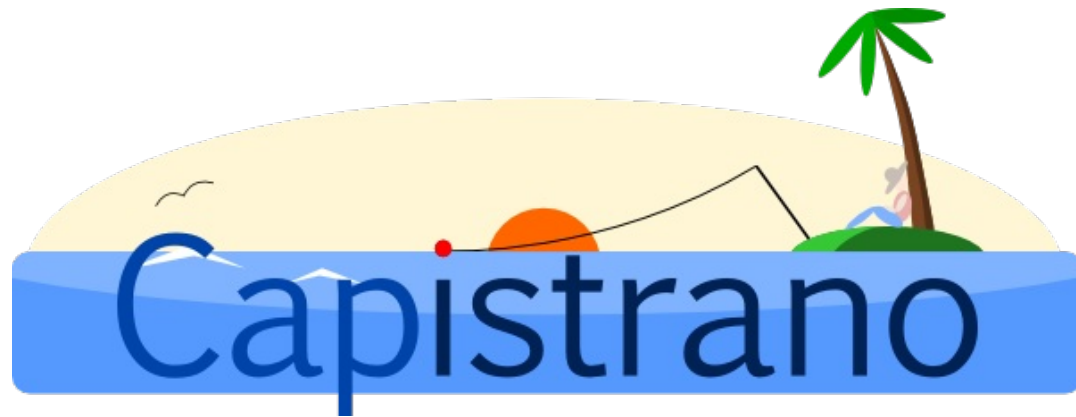
CustomInk Apps

The collage displays several key features of the CustomInk platform:

- Website Header:** CustomInk Design T-shirts Online, with contact options: "talk to a real person 800-293-4232" and "chat with LIVE CHAT".
- Navigation:** home, products, design lab, design ideas.
- Special Offer:** "A special mom deserves a special gift for Mother's Day: a one-of-a-kind t-shirt. Click here to get started." with a "FAST & FREE SHIPPING" badge.
- Design Lab:** A tool for creating custom t-shirts with options for "swap item", "add text", "add art", and "change color". It includes a "Get Started" section and a "Need Help?" section.
- Product Listings:**
 - Adidas Three Stripe Performance Shirt (169700)
 - Alo Short Sleeve Performance Shirt (130400)
 - American Apparel 50/50 T-shirt (116900)
 - American Apparel Fitted T-shirt (16000)
- Ink of the Week:** A promotion where users can win a \$100 voucher by submitting a photo of their group.
- Quote #1:** A detailed quote for a "Gildan Ultra Cotton T-shirt" in white, showing quantities for front, back, and sleeve, and a "Price This" button.
- Design Examples:** Two t-shirt designs are shown: "Snackbar Czar" and "Pork".
- Ordering Process:** A section titled "Why is there no quote?" explaining that a valid ZIP code is required to receive a price.

Deploying the Apps

- Most of the apps are Rails
- Deployed with Capistrano



Deploying the Apps

- Lots of identical deploy logic in each application
- Inconsistent deploy behavior
- Need a way to streamline this

Caphub



Centralized Capistrano for deploying multiple apps

```
cap apps:ecommerce:production deploy
```

```
cap apps:fulfillment:production deploy
```

Deploying

- Merge
- Build
- Deploy
- Verify
- Get out of the way

Stay on "topic"

- Use the "Topic" of our Campfire room to sequence deploys

Andrew (NFE-5696) (deployed) | Stafford (NFE-5667) | Andrew (NFE-5700) | Nathan (NFE-5393) | ~> Jake

- Product manager help with sequencing, when it's important

Announcing the deploy

- Still some ceremony here
- Automate the ceremony
 - Changelog and compare URL posted to Campfire
 - Blog updated
 - Email sent

Getting better...

- Change the process
- Automation for disposable servers
- Easy development environments
- Testing every branch
- Stay on "topic"

What's changed?

- Minimized work in process
- Shorter cycle times
- Fewer integration bugs

What's changed?

- People get agitated if / when deploys slow down
- Deploy one thing at a time
- Everyone deploys
- Rollbacks are now the exception

How can YOU get started?

- Look at the process
- Look at the culture
- Automate, automate, automate
- Enable everyone
- Use the right tools!

The right tools



The right tools

- Culture
- Conversation
- Collaboration

Other tools that we use

- git / GitHub - github.com
- Vagrant - vagrantup.com
- Chef - opscode.com

Other tools that we use

- Jenkins - jenkins-ci.org
- Greenscreen - [CustomInk's GitHub](#)
- Campfire - [37signals](#)

Other tools that we use

- Capistrano - [GitHub](#)
- Caphub - [Railsware's GitHub](#)

Thanks!



CustomInk
Design T-shirts Online



@nathenharvey

