Continuous Delivery

Martin Fowler, Jez Humble
YOW! Melbourne, 2 December 2011

http://thoughtworks-studios.com/
agile 101

Iteration: 0 1 2 3 4

- Analysis + Design
- Development
- Testing + Showcase

"Agile" team

Centralized QA

Integration + QA

IT Operations

Release and operation

The "last mile"

Customer

Iteration: 0 1 2 3 4
web 2.0

disrupting traditional businesses

FEATURING

Flickr was last deployed 12 hours ago, including 9 changes by 5 people.

In the last week there were 54 deploys of 636 changes by 23 people.

http://code.flickr.com/
releasing frequently

feedback from users

innovate

You can't just ask customers what they want and then try to give that to them.

By the time you get it built, they'll want something new.

Steve Jobs
scientific method

create hypothesis

deliver minimum viable product

get feedback

(repeat)

“How long would it take your organization to deploy a change that involved just one single line of code? Do you do this on a repeatable, reliable basis?”

Mary and Tom Poppendieck, Implementing Lean Software Development, p59.
releasing frequently

feedback from users
reduce risk of release

John Allspaw: “Ops Metametrics” http://slidesha.re/dsSZIr
releasing frequently

feedback from users
reduce risk of release
real project progress
Our highest priority is to satisfy the customer through early and continuous delivery of valuable software
production-ready software

Fast, automated feedback on the production readiness of your applications every time there is a change - to code, infrastructure, or configuration
continuous delivery

Software always production ready
Releases tied to business needs, not operational constraints
continuous delivery

automation

patterns and practices

collaboration
ingredients

configuration management

continuous integration

automated testing
Everyone Commits To the Mainline Every Day
build quality in

“Cease dependence on mass inspection to achieve quality. Improve the process and build quality into the product in the first place”

W. Edwards Deming
different kinds of testing

Diagram invented by Brian Marick
deployment pipeline

an automated implementation of your system’s build, deploy, test, release process

visibility

feedback

control
deployment pipeline

Increasing confidence in build's production readiness

Environments become more production-like

Commit stage
  Compile
  Unit test
  Analysis
  Build installers

Acceptance test stage

User acceptance testing

Performance testing

Production

Faster feedback
deployment pipeline

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Friday, December 2, 11
reducing release risk

automate provisioning and deployment

ensure devs, testers and ops collaborate throughout
reducing release risk

devops

incrementalism

decoupling deployment and release
devops

culture
automation
measurement
sharing
low risk releases are incremental

- blue-green deployments
- canary releases
- dark launching
- feature toggles
- production immune system
DEPENDING SERVICE

1.0  1.1

Abstraction layer

Database

Abstraction layer

APPLICATION

Router / Load balancer

Interwebs

STATIC CONTENT

/static/1.1
/static/1.0
blue-green deployments
release != deployment
Feature toggles

Config File

```plaintext
[featureToggles]
wobblyFoobars: true
flightyForkHandles: false
```

```php
<?if ($wobblyFoobars) {?>
... various UI elements
<?}?>
```

other.php

```php
$fork_handle = ($featureConfig->isOn('flightyForkHandles')) ?
    new flightyForkHandler(aCandle) :
    new forkHandler(aCandle);
```

some.php

Stolen from Martin Fowler [http://martinfowler.com/bliki/FeatureToggle.html](http://martinfowler.com/bliki/FeatureToggle.html)
Dark Launching
people are the key

Get everyone together at the beginning

Keep meeting

Make it easy for everyone to see what’s happening

Continuous improvement (kaizen)
thank you!

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