

Continuously testing govt.nz

Using Specification by Example, BeHat and CircleCI

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Te Tari Taiwhenua
Internal Affairs

Government Information Services



New Zealand Government
Te Kāwanatanga o Aotearoa

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New Zealand Gazette
Te Kāhiti o Aotearoa

The official Government newspaper and authoritative journal of constitutional record, published since 1841

Technology



**Common Web Platform for
Infrastructure**



Silverstripe 3 /PHP

Our challenges

**SilverStripe out of
date**



Customisation

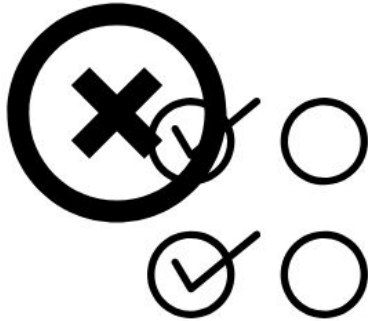


Upgrades high risk



Our challenges

No automated
testing



No test metrics



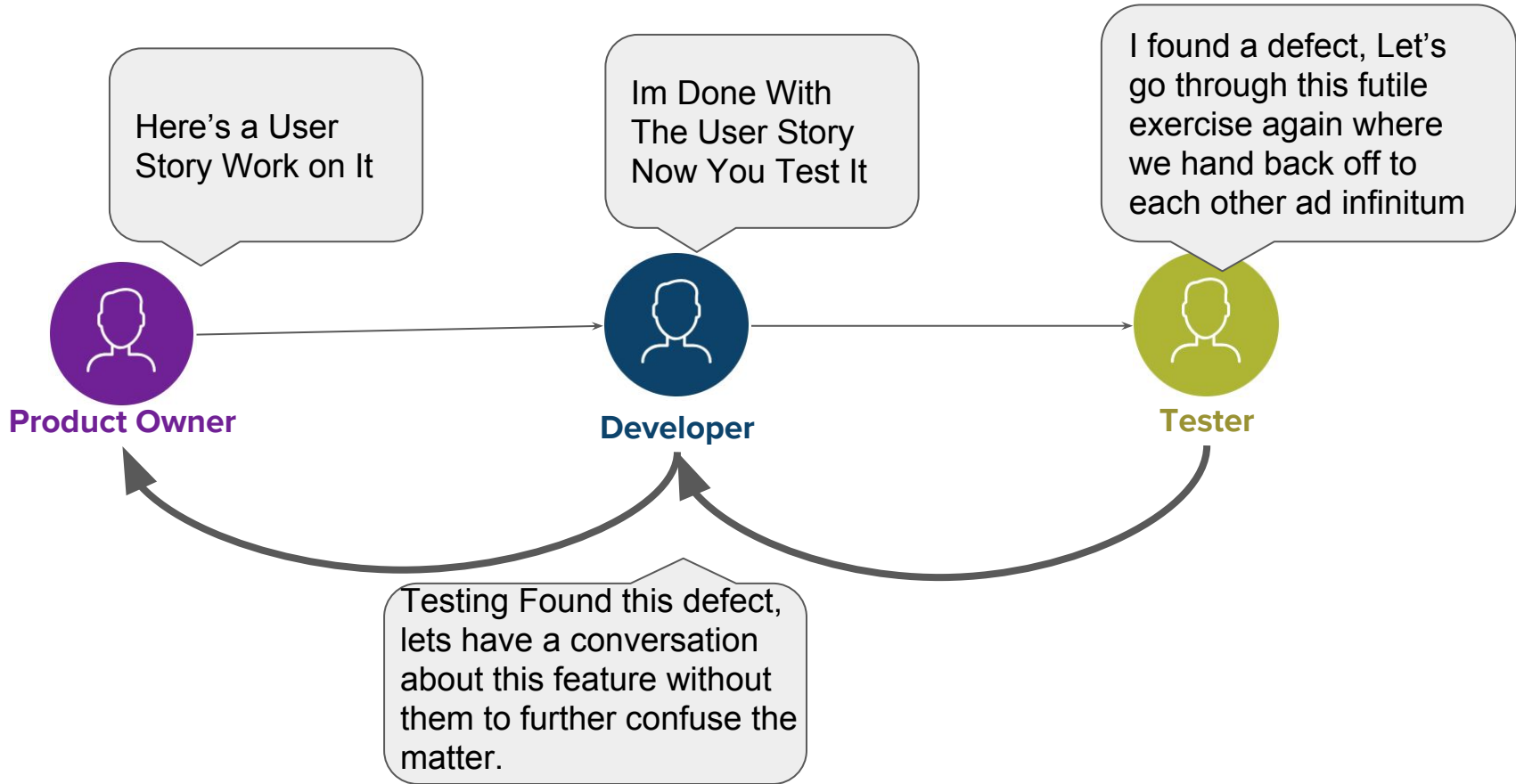
Manual testing for
upgrades



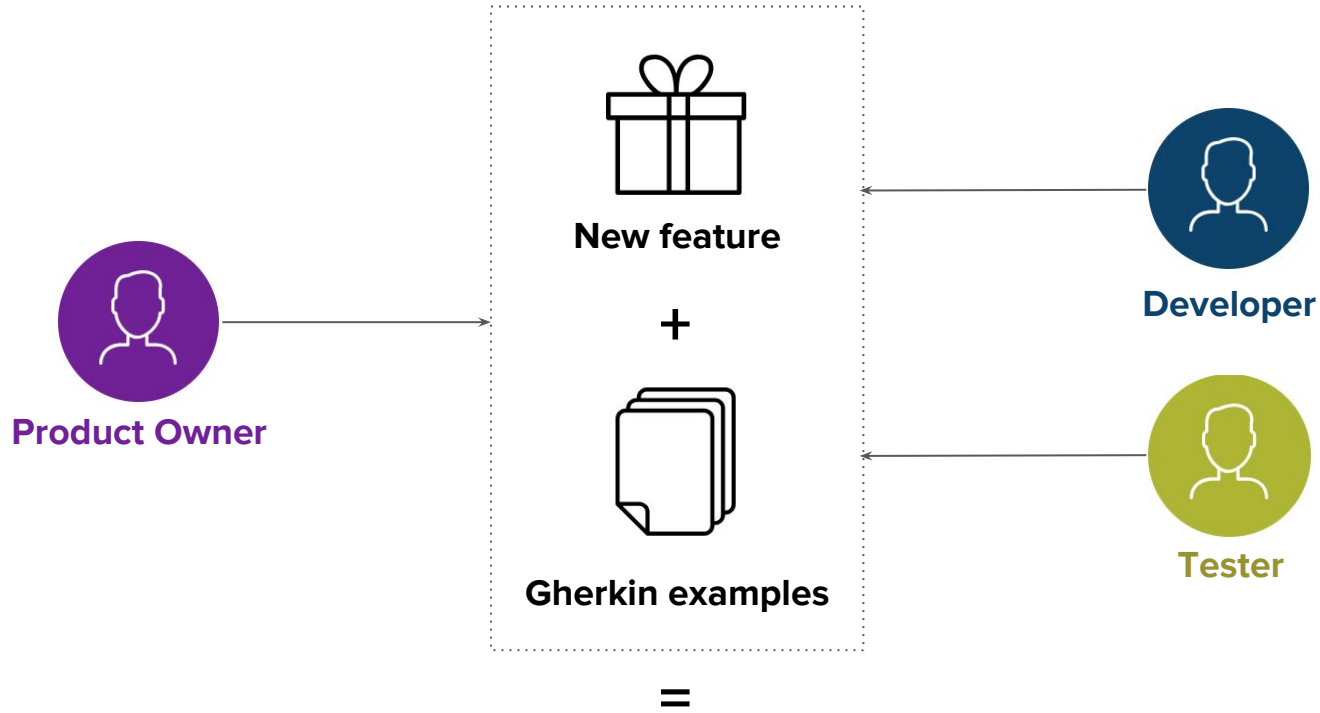
Initial workflow

- Micro-waterfall Agile
- Non-Standard Developer Environments
 - (With PHP Stack this is important)
- Manual Handoffs to Testing

Micro Waterfall Antipattern



Specification by Example - 3 “Amigos”



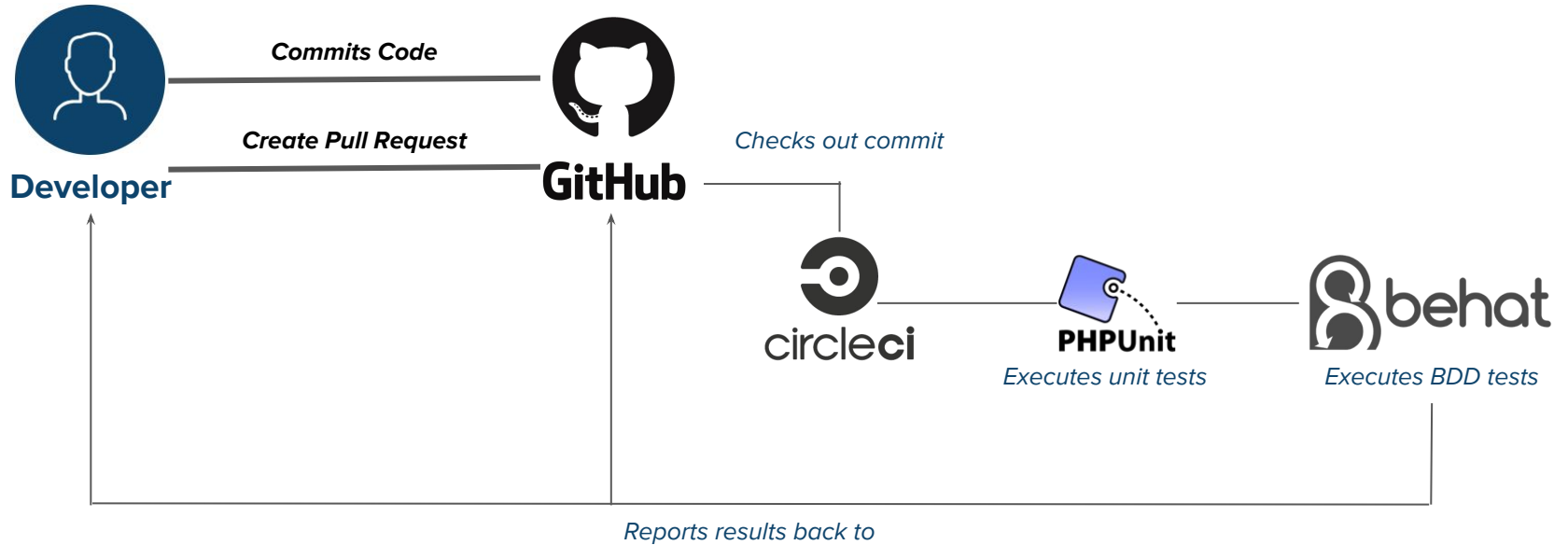
Automated, executable test cases!

Continuous Integration - Testing



We want to execute and report upon a suite of unit
and behaviour tests

CI Workflow





Visualise

- Stocktake
- Total of over 300 features (Gazette almost half)
- Tricky date / time driven features
- Used 'Spec By Example' to describe each feature



2 Prioritise

- Couldn't do everything
- Determine high risk features and focus on those first
- How important is this feature to the product?
- If it breaks will the site still work?

HOW LONG CAN YOU WORK ON MAKING A ROUTINE TASK MORE
EFFICIENT BEFORE YOU'RE SPENDING MORE TIME THAN YOU SAVE?
(ACROSS FIVE YEARS)

		HOW OFTEN YOU DO THE TASK					
		50/DAY	5/DAY	DAILY	WEEKLY	MONTHLY	YEARLY
HOW MUCH TIME YOU SHAVE OFF	1 SECOND	<div><div>1</div></div> DAY	2 HOURS	30 MINUTES	4 MINUTES	1 MINUTE	5 SECONDS
	5 SECONDS	<div><div>5</div></div> DAYS	12 HOURS	2 HOURS	21 MINUTES	5 MINUTES	25 SECONDS
	30 SECONDS	<div><div></div><div></div><div></div><div></div><div></div><div></div></div> 4 WEEKS	<div><div>3</div></div> DAYS	12 HOURS	2 HOURS	30 MINUTES	2 MINUTES
	1 MINUTE	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> 8 WEEKS	<div><div>6</div></div> DAYS	<div><div>1</div></div> DAY	4 HOURS	1 HOUR	5 MINUTES
	5 MINUTES	9 MONTHS	<div><div></div><div></div><div></div><div></div><div></div><div></div></div> 4 WEEKS	<div><div>6</div></div> DAYS	21 HOURS	5 HOURS	25 MINUTES
	30 MINUTES		6 MONTHS	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> 5 WEEKS	<div><div>5</div></div> DAYS	<div><div>1</div></div> DAY	2 HOURS
	1 HOUR		10 MONTHS	2 MONTHS	<div><div>10</div></div> DAYS	<div><div>2</div></div> DAYS	5 HOURS
	6 HOURS				2 MONTHS	<div><div></div><div></div><div></div><div></div><div></div><div></div></div> 2 WEEKS	<div><div>1</div></div> DAY
	<div><div>1</div></div> DAY					<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> 8 WEEKS	<div><div>5</div></div> DAYS



3 Gherkinise

- Wrote all features test in the Gherkin syntax
- Which then was living documentation for the team

Given there is a home page with the content
“Welcome to DIA”

When I go to “/”

Then I should see “Welcome to DIA”



Change of mentality to Test Driven Development



Build Quality into development process

A grayscale photograph of a person's hands typing on a laptop keyboard. The laptop screen displays a line graph with two data series. The background is slightly blurred, showing a desk and some papers. A solid olive-green horizontal bar is at the top of the image.

Visualisation and Metrics

Culture of Improvement



Path to automation isn't binary

A group of four people, two women and two men, are standing on a grassy hilltop, hugging each other from behind. They are silhouetted against a bright sunset or sunrise, with the sun low on the horizon creating a lens flare. The background shows a vast landscape with rolling hills and some sparse vegetation. The overall mood is one of unity and achievement.

Involve everyone in the team

**Automation only works if
humanised**

