

Continuously testing govt.nz

Using Specification by Example, BeHat and CircleCI

Amanda Baker, Developer/Tester, Department of Internal Affairs GIS

Allen Geer, Principal Consultant, Assurity Consulting Ltd

assurity⁺



Te Tari Taiwhenua
Internal Affairs

Government Information Services



New Zealand Government
Te Kāwanatanga o Aotearoa

DIGITAL.GOVT.NZ

data.govt.nz Discover and use data



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SilverStripe out of
date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

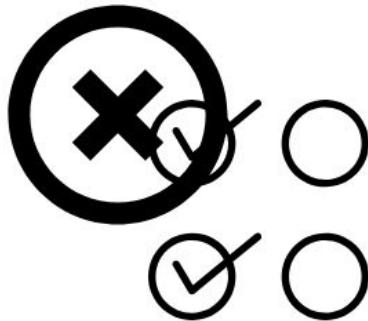


Upgrades high risk



Our challenges

No automated
testing



No test metrics



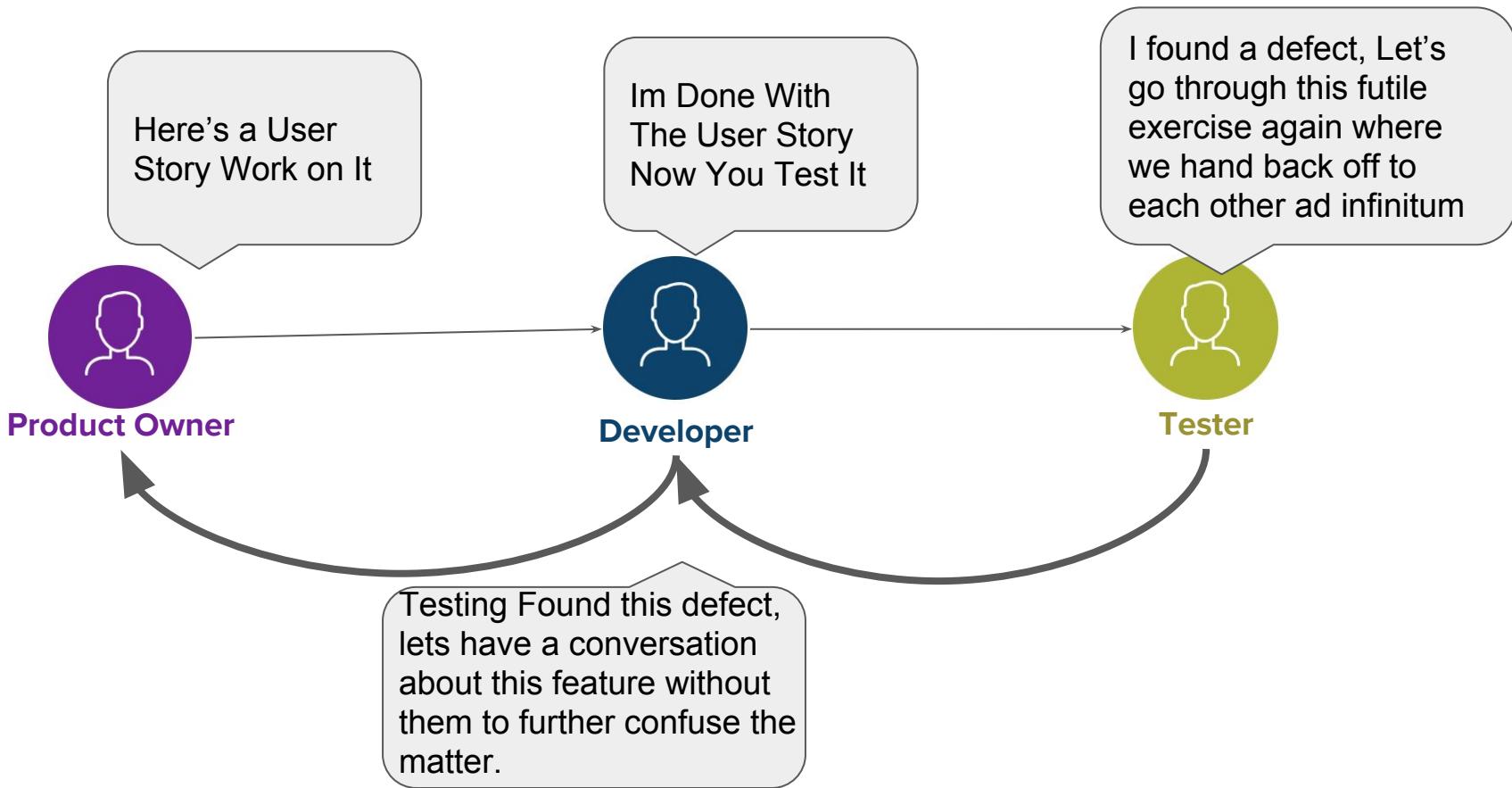
Manual testing for
upgrades



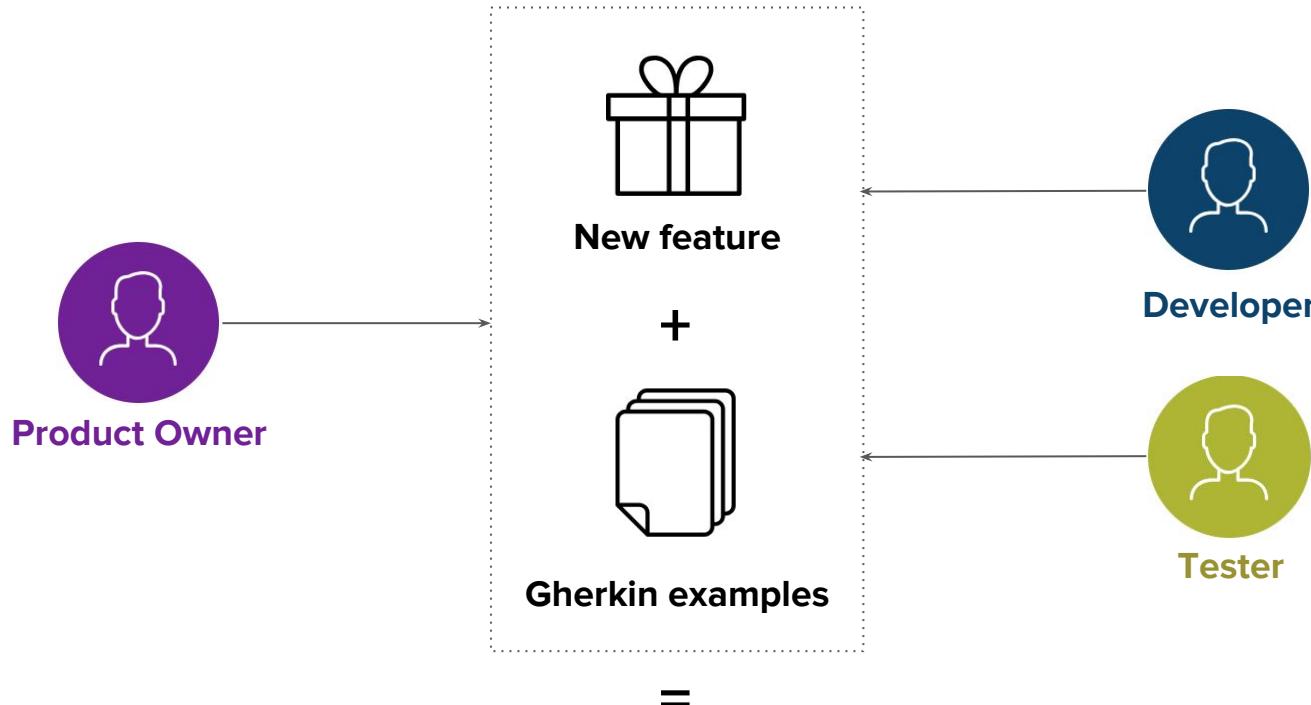
Initial workflow

- 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”



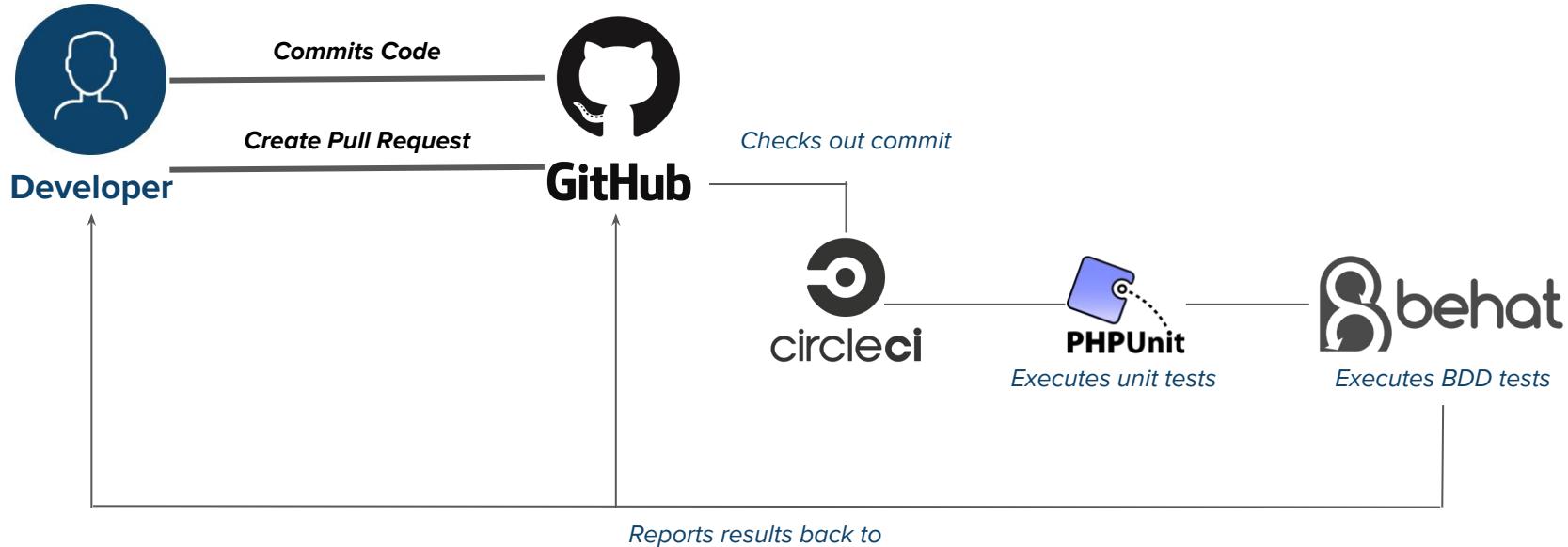
Automated, executable test cases!

Continuous Integration - Testing



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

CI Workflow





- 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	1 DAY	2 HOURS	30 MINUTES	4 MINUTES	1 MINUTE	5 SECONDS
	5 SECONDS	5 DAYS	12 HOURS	2 HOURS	21 MINUTES	5 MINUTES	25 SECONDS
	30 SECONDS	4 WEEKS	3 DAYS	12 HOURS	2 HOURS	30 MINUTES	2 MINUTES
	1 MINUTE	8 WEEKS	6 DAYS	1 DAY	4 HOURS	1 HOUR	5 MINUTES
	5 MINUTES	9 MONTHS	4 WEEKS	6 DAYS	21 HOURS	5 HOURS	25 MINUTES
	30 MINUTES		6 MONTHS	5 WEEKS	5 DAYS	1 DAY	2 HOURS
	1 HOUR		10 MONTHS	2 MONTHS	10 DAYS	2 DAYS	5 HOURS
	6 HOURS				2 MONTHS	2 WEEKS	1 DAY
	1 DAY					8 WEEKS	5 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

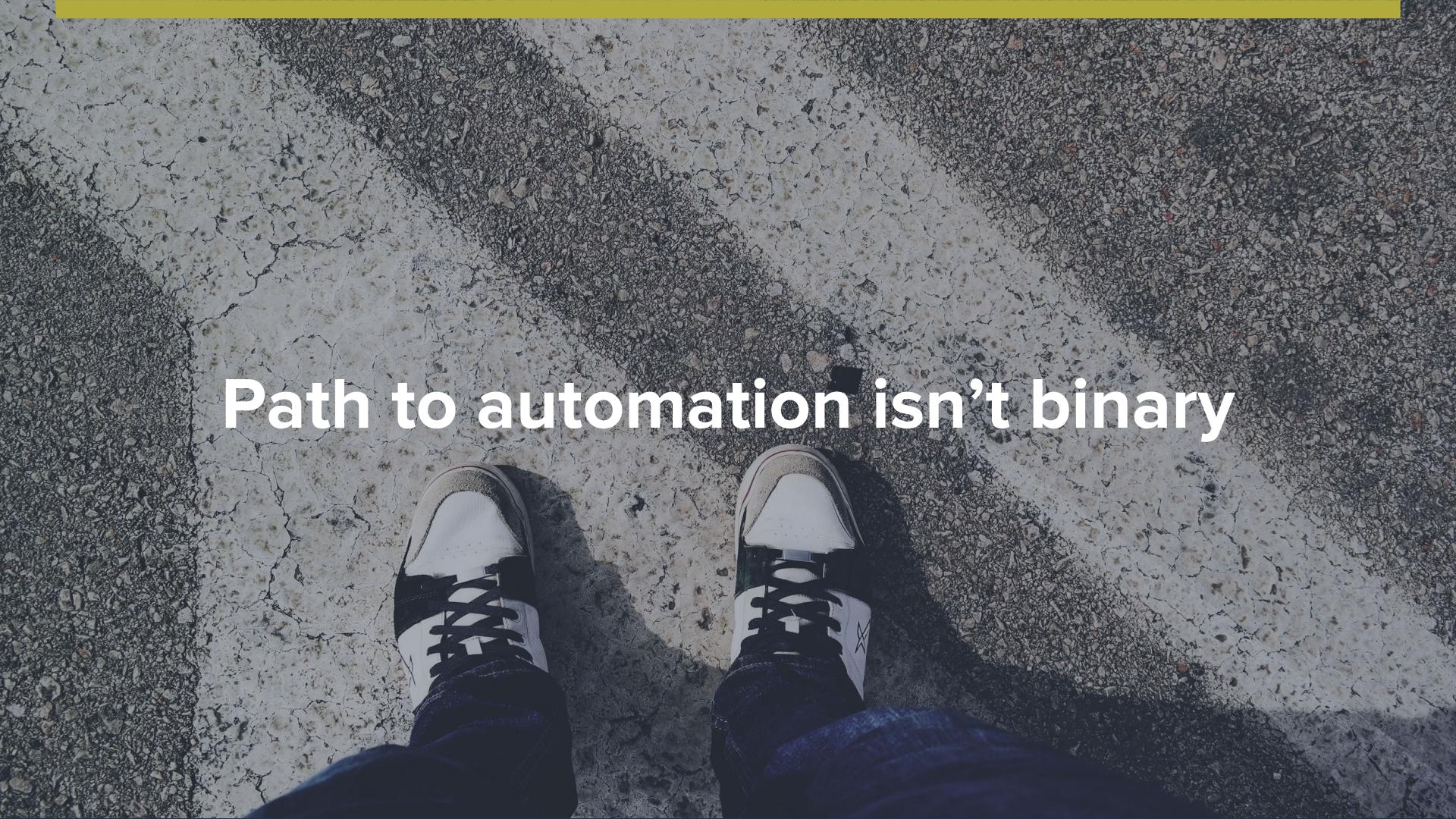


Build Quality into development
process



Visualisation and Metrics

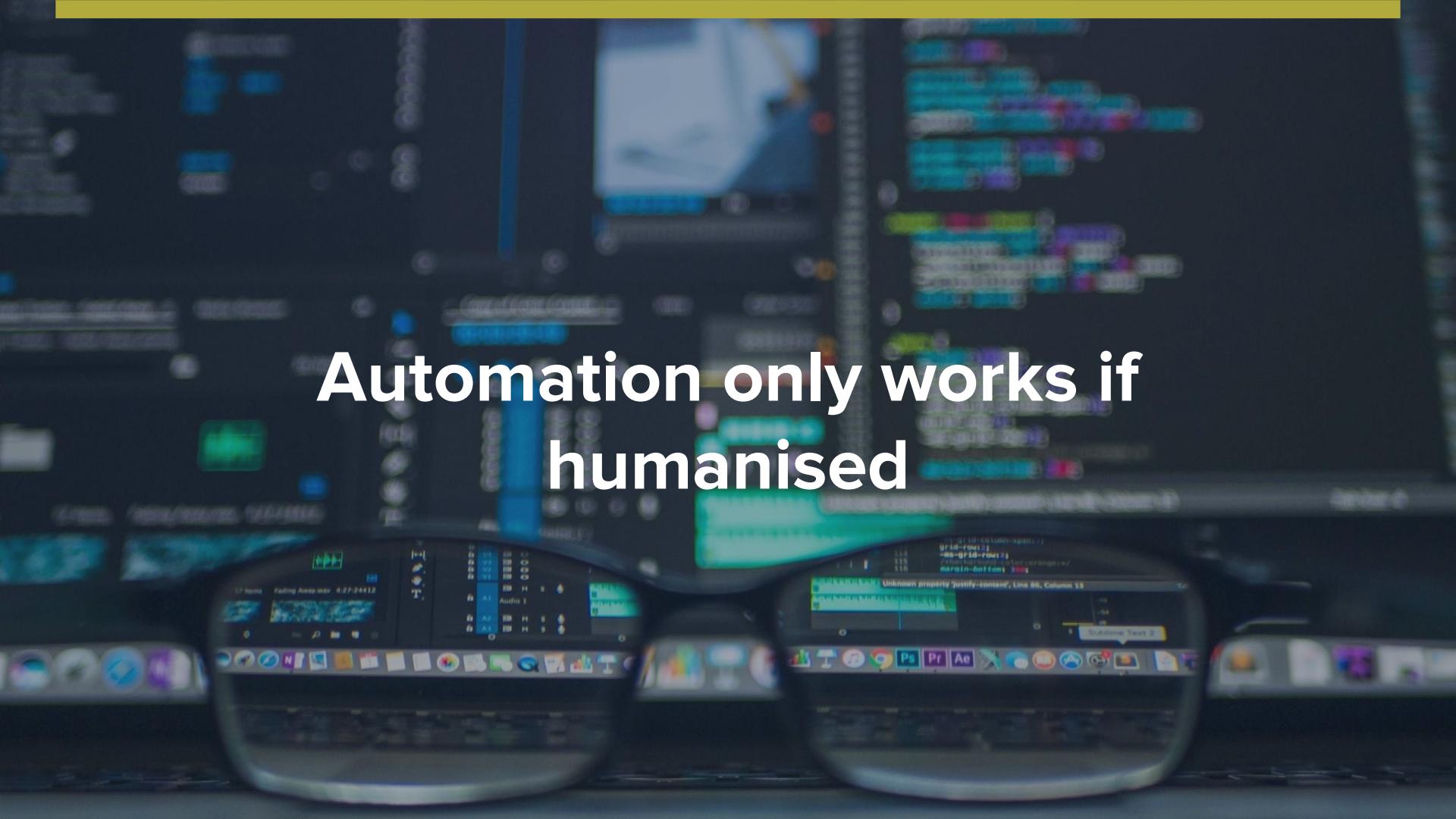
Culture of Improvement

A photograph taken from a first-person perspective, looking down at a pair of white low-top sneakers with dark blue stripes and laces. The person is standing on a light-colored, textured asphalt surface with prominent cracks. The background is a dark, solid color.

Path to automation isn't binary

A photograph of three people standing outdoors in a field at sunset. They are facing away from the camera, with their arms around each other's shoulders, forming a huddle. The scene is bathed in warm, golden light from the setting sun. In the foreground, there are some low-lying plants and a small, partially visible tent or sleeping bag on the left.

Involve everyone in the team



Automation only works if
humanised