



Accessibility for All

Rory Preddy
Microsoft Developer Advocate



@rorypreddy

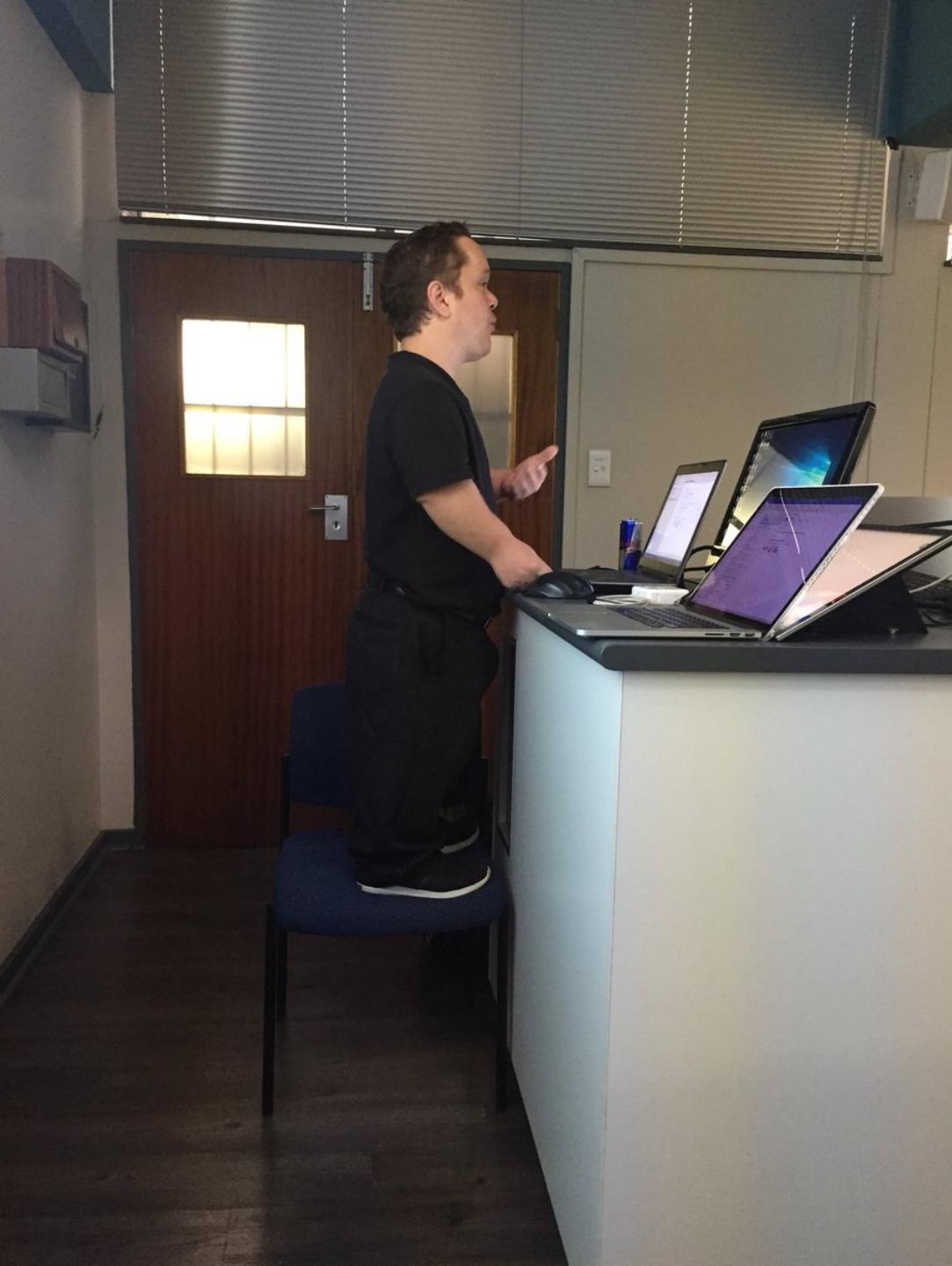


<https://aka.ms/for-all>

My Car Pedals



Bolt on



The Agile Manifesto



Manifesto for Agile Software Development

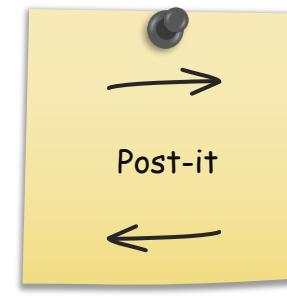
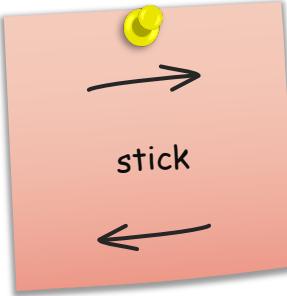
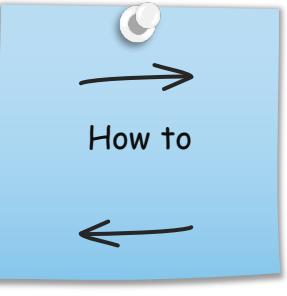
We are uncovering better ways of developing software by doing it and helping others do it.
Through this work we have come to value:

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

Open office

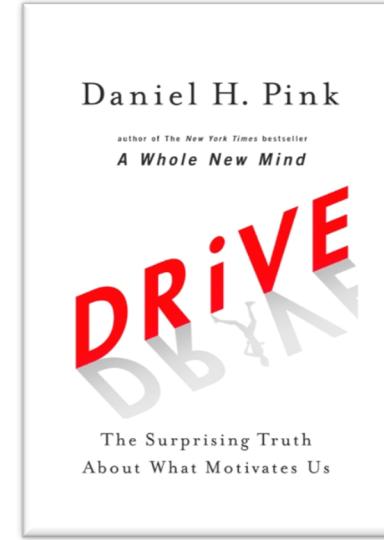
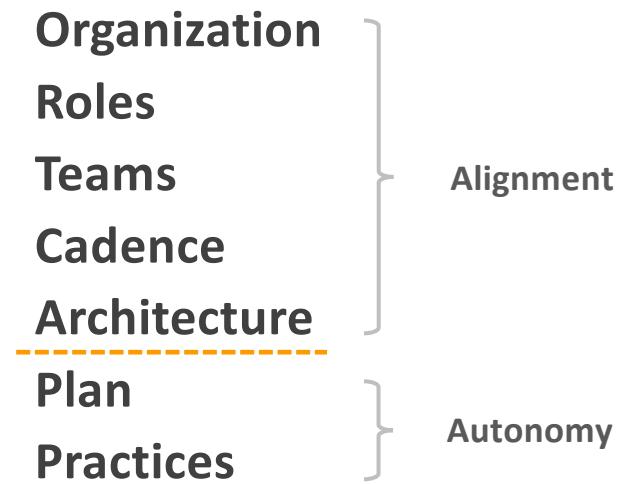




The Hydra



Aligned Autonomy

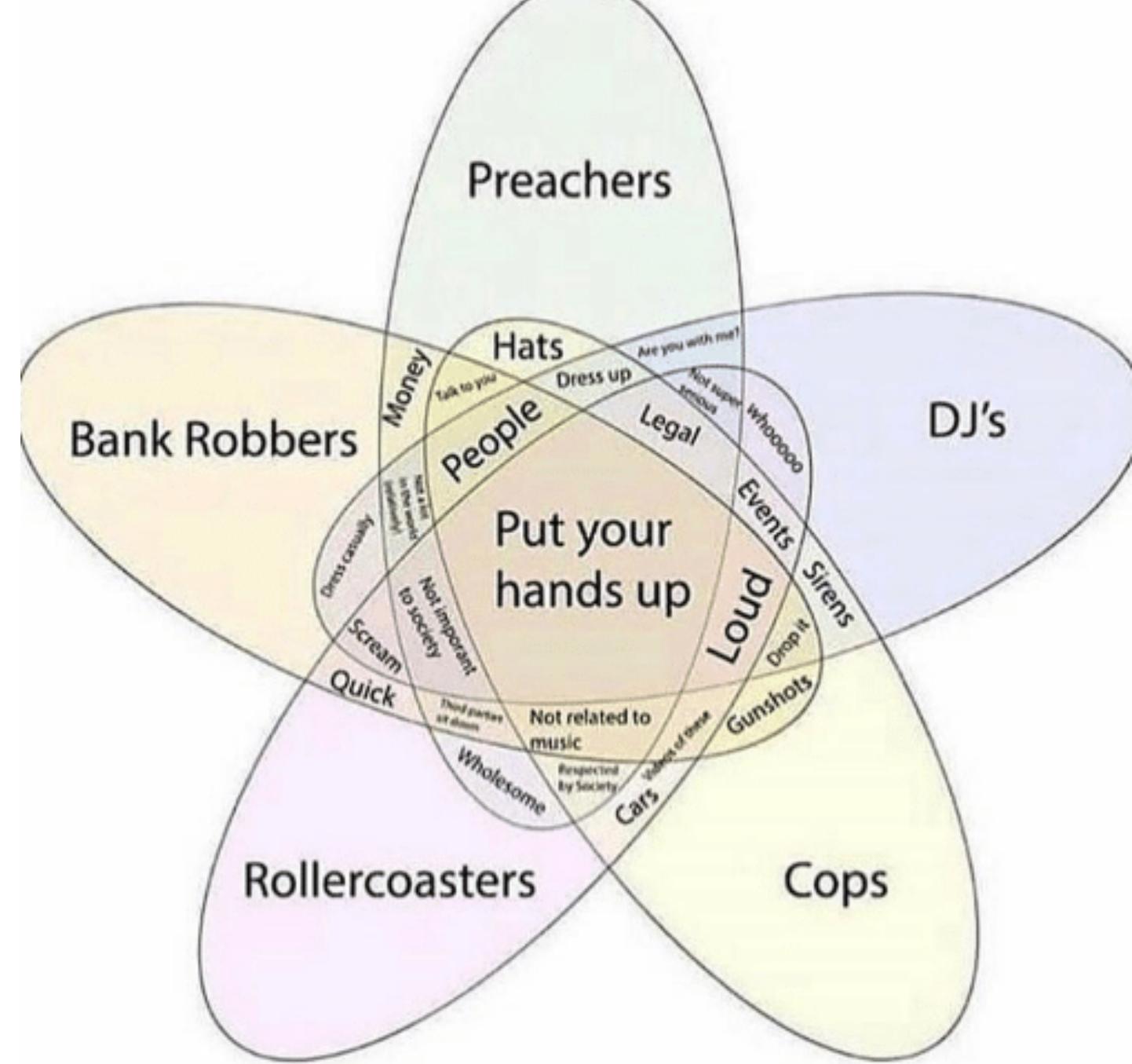


*"Let's try to give our teams three things ...
Autonomy, Mastery, Purpose."*

Ikigai



Put your hands up



Empathy Bubble



Fail

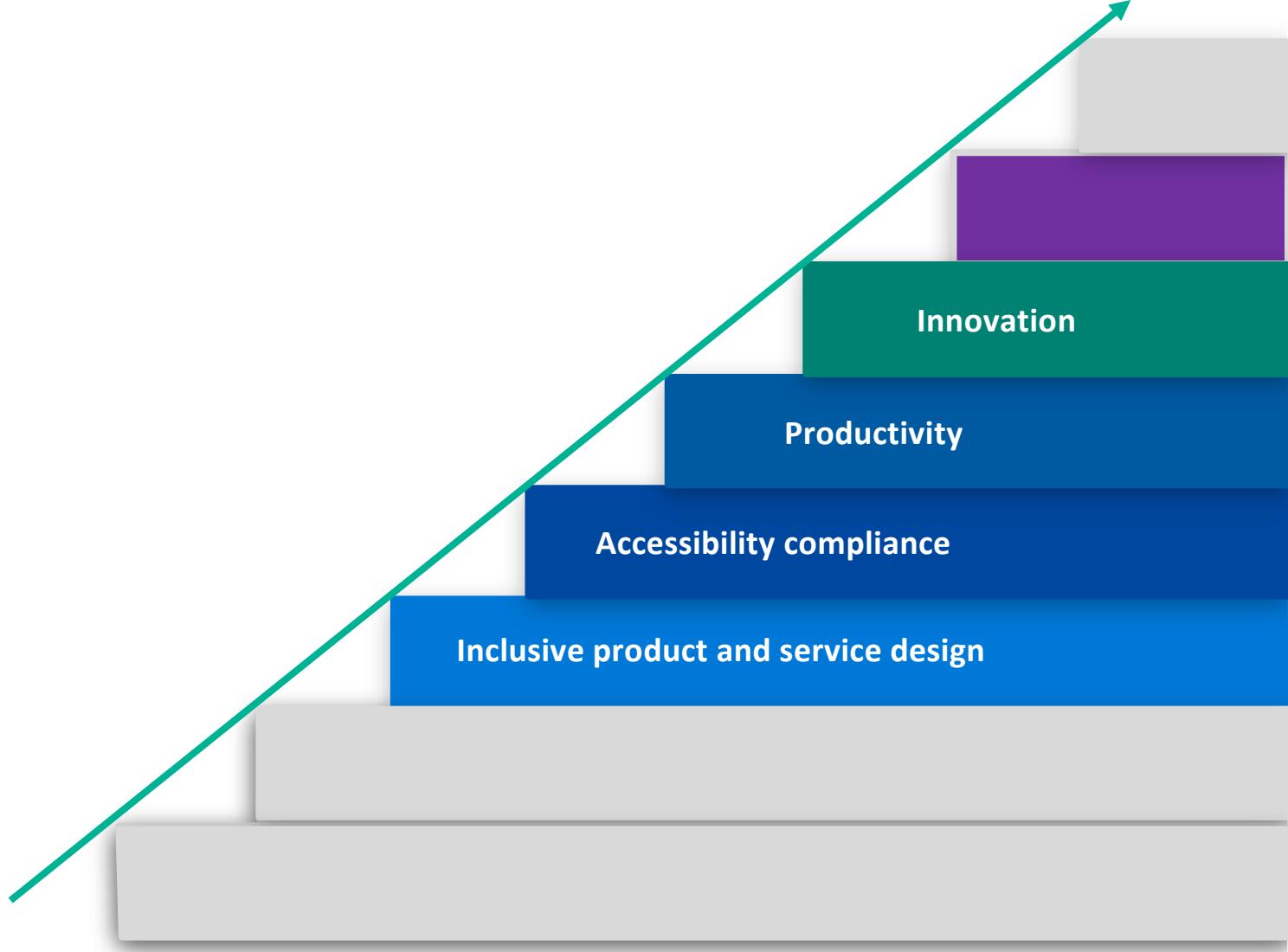
FAIL

The plan

- Define Accessibility
- Understanding Your Organization's Unique Accessibility Motivators
- Set Achievable Interim Milestones
- Implement Tools
- Measure, Improve and Automate

Accessibility is...

...the design of products, services, and environments so that everyone, including people with disabilities, can fully experience them.



Disability



Personal
health
condition

Disability



Mismatched
human
interactions

Accessibility Design principles

- Perceivable – *can you see it*
- Operable – *can you use it*
- Understandable – *can you understand it*
- Robust – *it won't break future technologies*



Motivators



Legislation



US 21st Century Integrated Digital Experience Act



EU parliament directive on digital accessibility



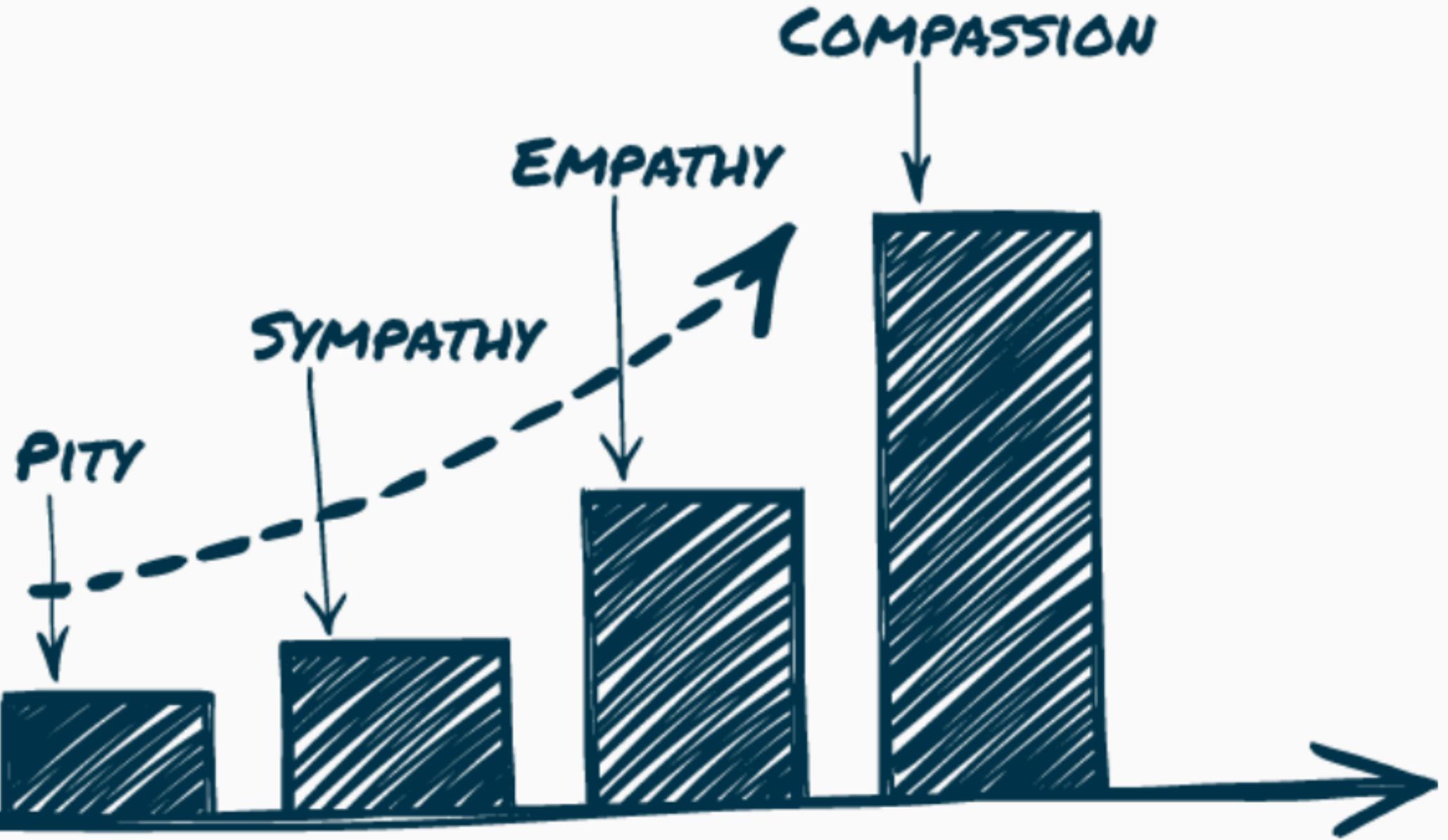
Quality of life

For most of human history, we've put our innovative capacity into improving the quantity of life. Because we're living longer, our focus is starting to shift toward improving our quality of life

--Bill Gates



Emotional Engagement



Claudia



54 years old social worker

Sight impaired (partially sighted)

Uses a screen magnifier and changes colours to increase contrast

Chromebook help

If you're lost, go back to the last left to reorientate yourself!

Ashleigh



24 years old arts graduate and administrative assistant

Severely sight impaired (blind)

Uses a screen reader

Chromebook help

Screen reader quick guide:

Use Tab to move from links and form elements to the next. Shift + Tab to go back. Search + Arrow Right/Left to read text in between those.

Ron



82 years old, retired

Multiple conditions: arthritis, losing his hearing, cataracts, hip replacements

Doesn't use any assistive technology

Chromebook help

As Ron is not very technical, don't use anything which might help. For example, don't zoom into the page and don't use the keyboard to navigate.

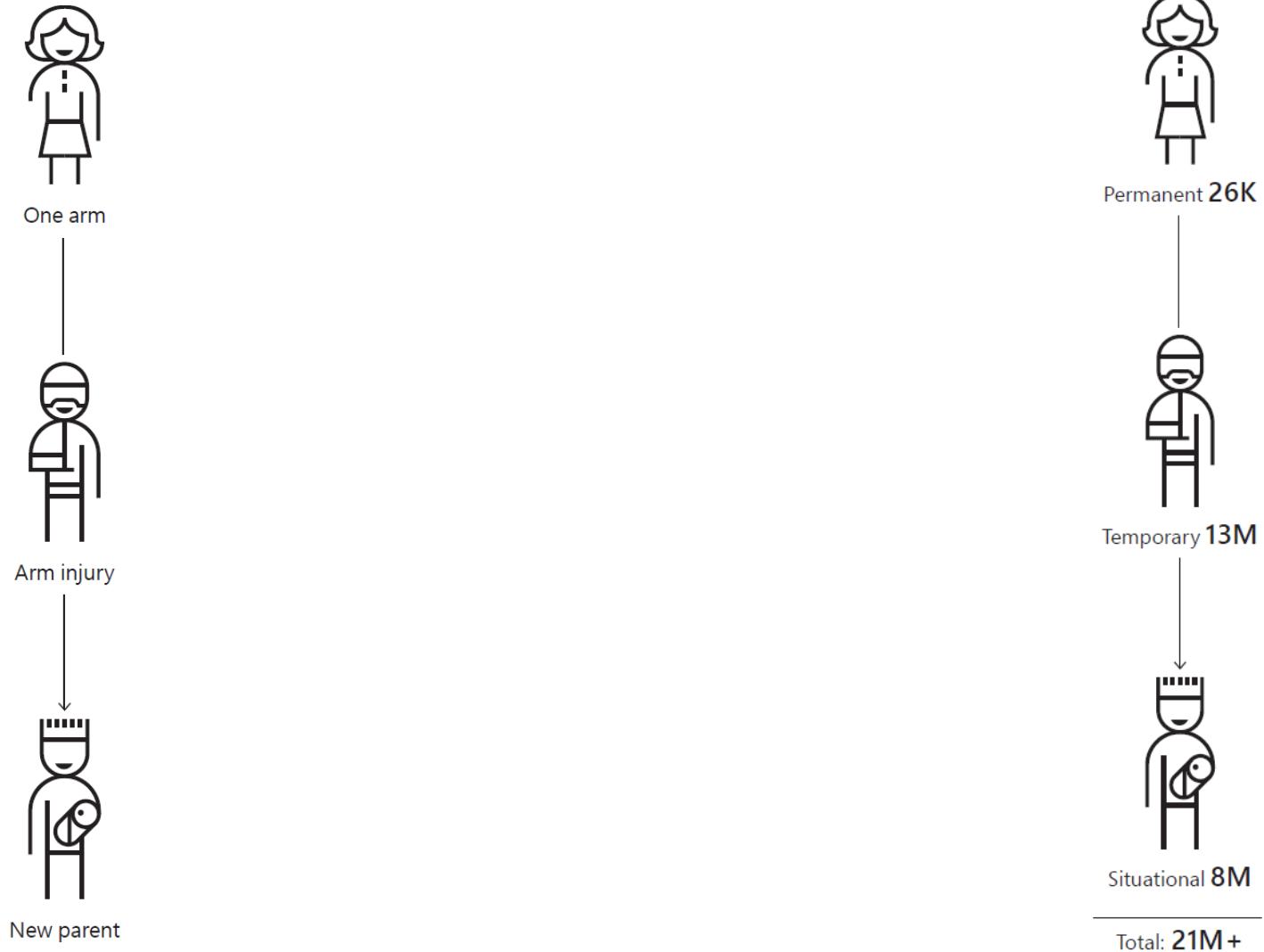


<https://alphagov.github.io/accessibility-personas/>

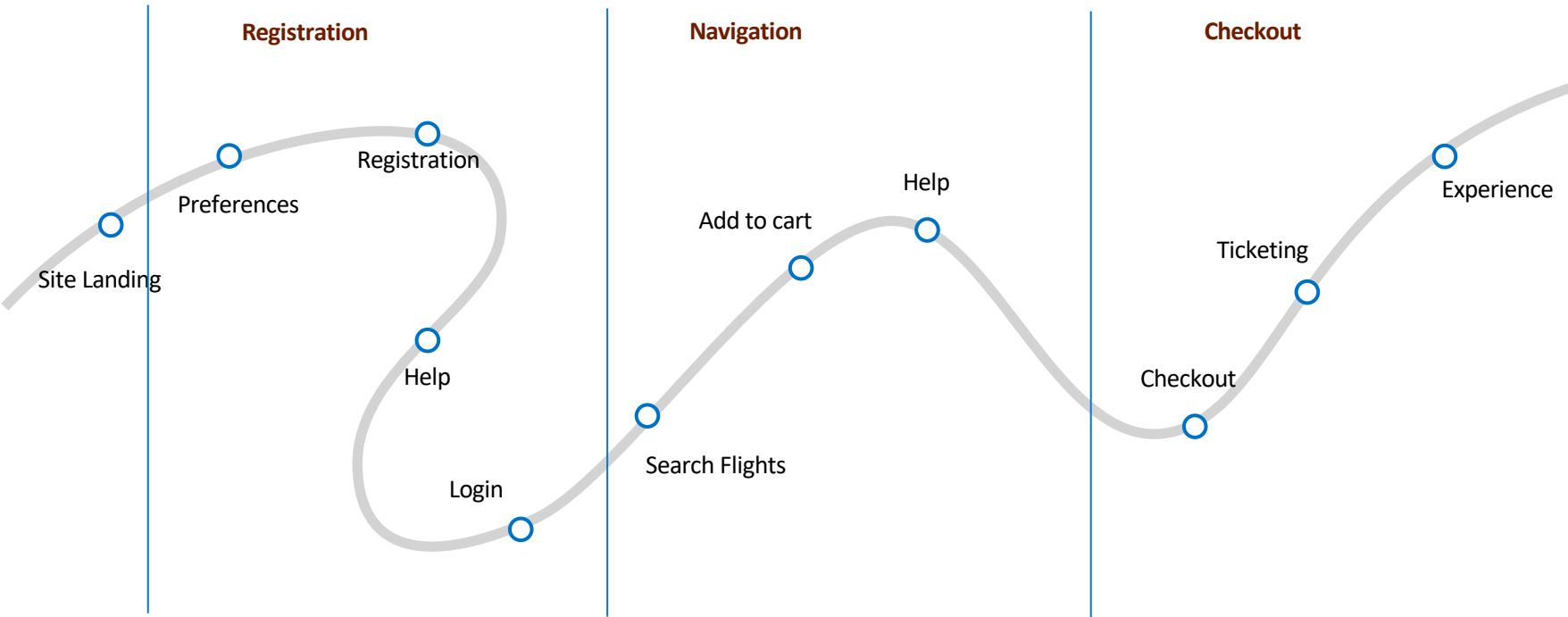
Inclusive design steps

1. Recognise exclusion
2. Solve for one, extend to many
3. Learn from diversity

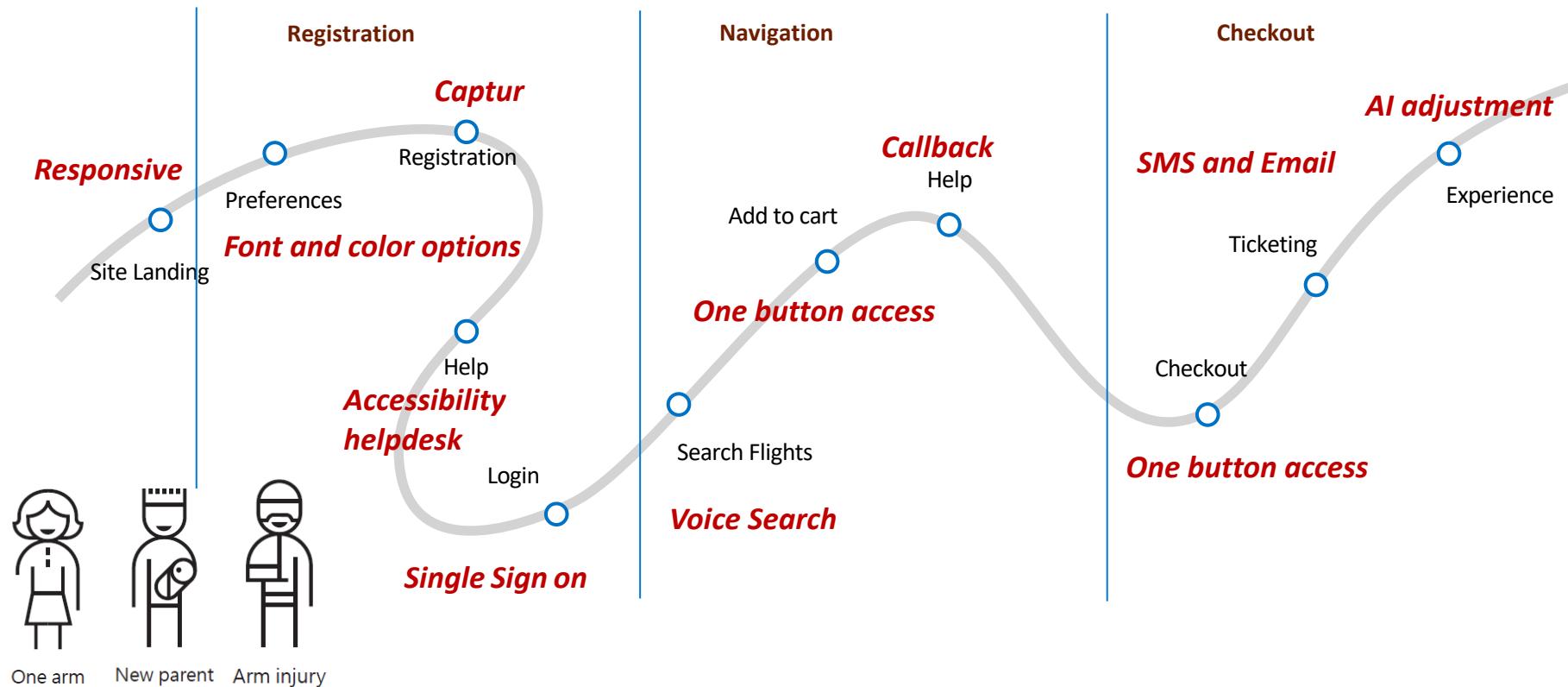
Persona Spectrum



Ticketing scenario

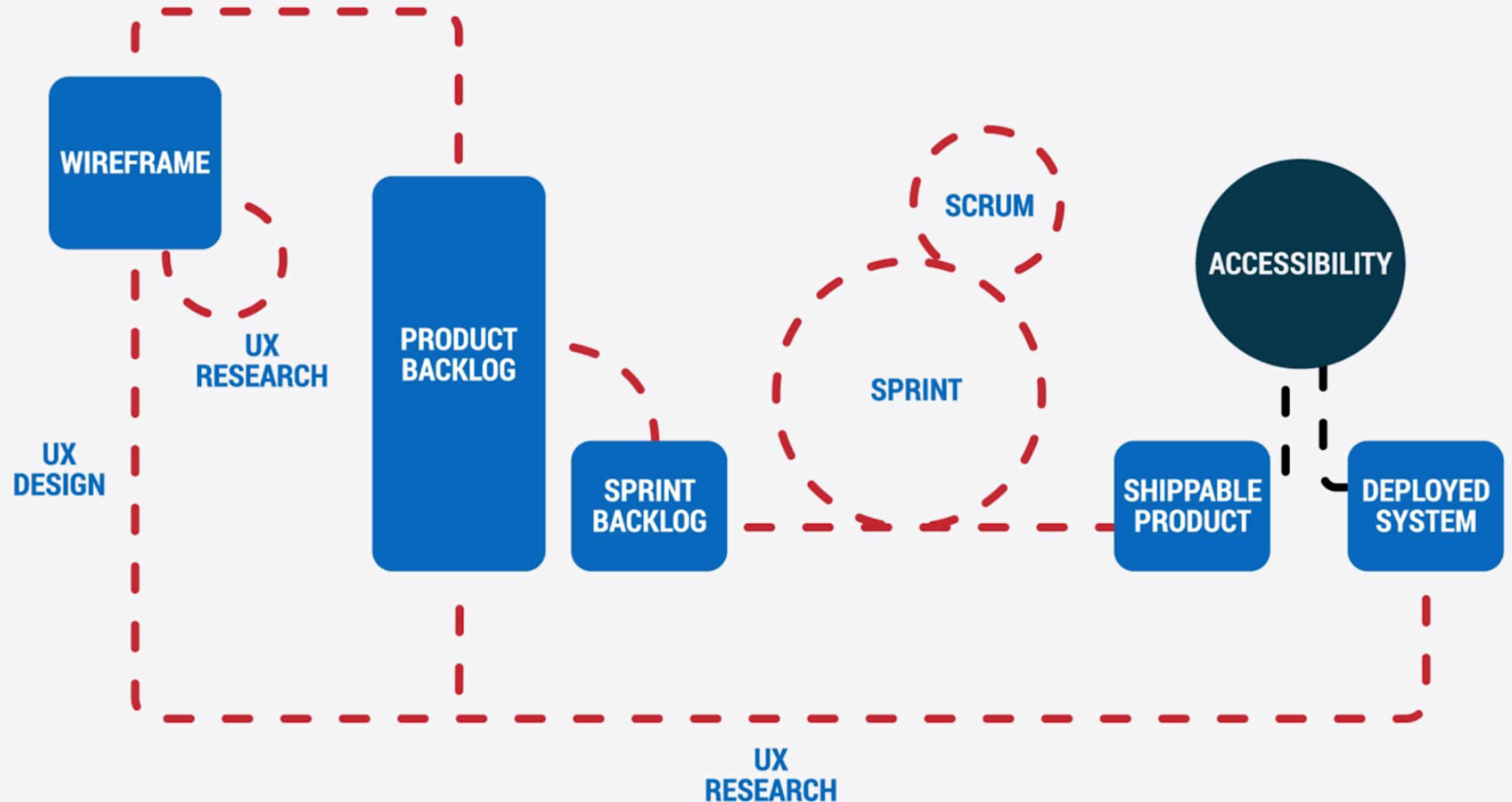


Apply Personas



Milestones





Backlog

Design

Coding

Testing

Release



Small Investment

Small Investment

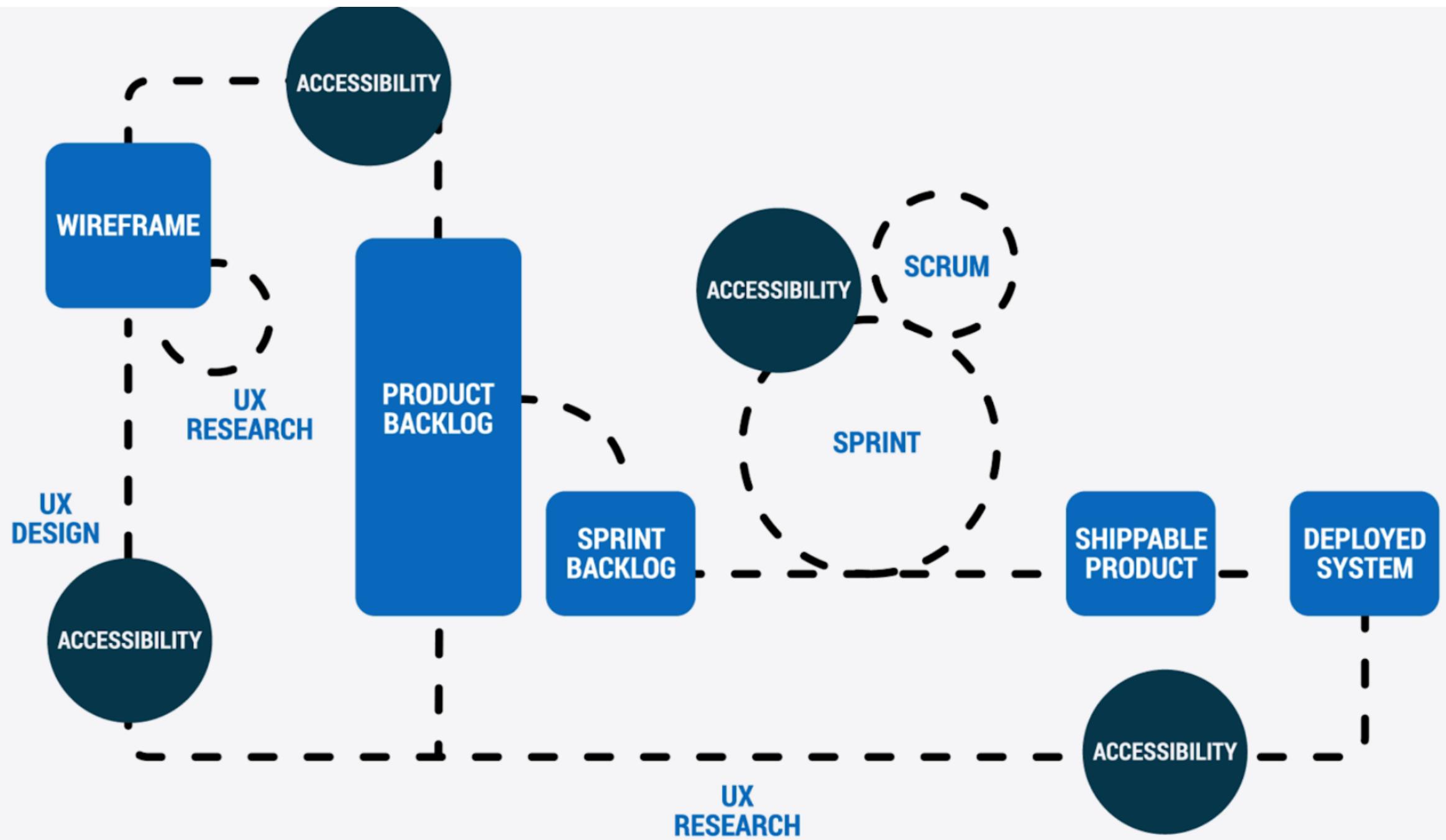
Small Investment

Small Investment

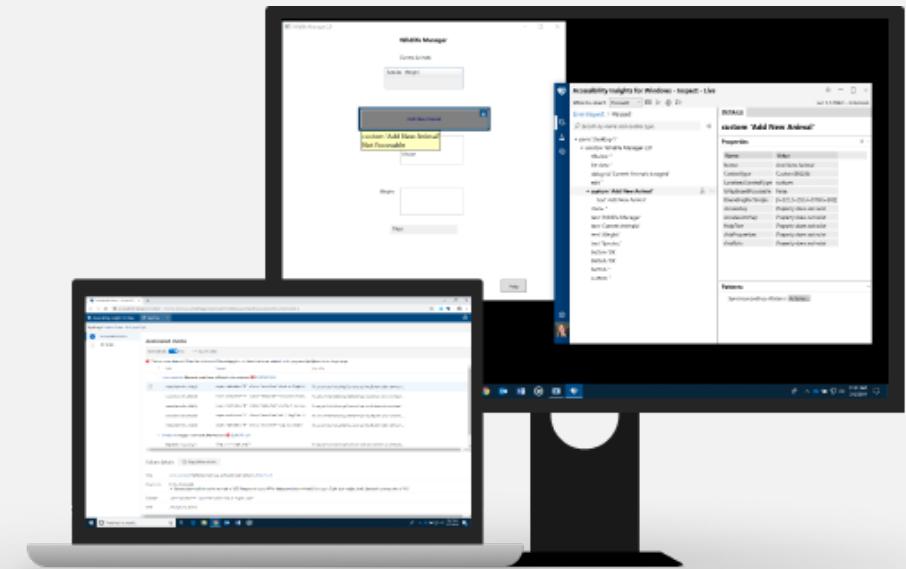
Large Investment

⚠ Traditional



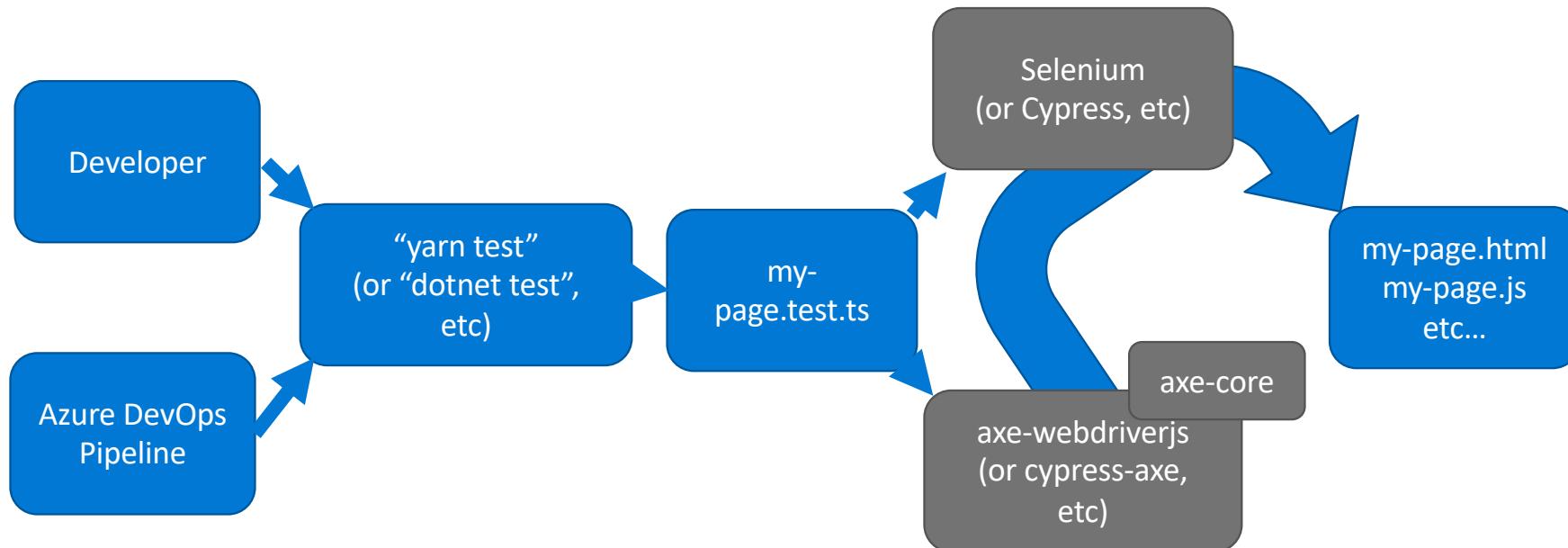


Tools



Scanning with axe-core

- axe-core is a javascript library (npm package)
- scans a rendered DOM
- reports back results as json
- Same engine that Accessibility Insights uses



Azure DevOps :: / Pipelines / [failing example] csharp-sel... / 20200115.8

Search

axe-pipelines-samples

Overview

Pipelines

Pipelines

Releases

Jobs

← Jobs in run #202...

[failing example] csharp-selenium-webdriver-sample

Job win-chrom 1m 30s

- Initialize job 3s
- Checkout 4s
- install .NET Core 13s
- dotnet restore 34s
- dotnet test 33s
- Component Det <1s
- Post-job: Check <1s
- Finalize Job <1s

dotnet test

Results File: d:\a_temp\VssAdministrator_fv-az130_2020-01-15_21_50_38.trx

Test Run Failed.

Total tests: 4

Passed: 3

Failed: 1

Total time: 22.5409 Seconds

##[error]Error: The process 'C:\hostedtoolcache\windows\dotnet\dotnet.exe' failed with exit code 1

Info: Azure Pipelines hosted agents have been updated to contain .Net Core 3.x SDK/Runtime along with the .NET Core 3.x runtime.

Some commonly encountered changes are:

If you're using `Publish` command with -o or --Output argument, you will see that the output folder is now relative to the root of your repository.

##[error]Dotnet command failed with non-zero exit code on the following projects : d:\a\1\s\csharp-dotnet-test\src\csharp-dotnet-test.csproj

Async Command Start: Publish test results

Publishing test results to test run '16690'.

TestResults To Publish 4, Test run id:16690

Test results publishing 4, remaining: 0. Test run id: 16690

Published Test Run : https://dev.azure.com/accessibility-insights/axe-pipelines-samples/_TestManagement

Async Command End: Publish test results

Finishing: dotnet test

View raw log

...

<https://github.com/microsoft/axe-pipelines-samples>

A axe-pipelines-samples +

Overview

Pipelines

Builds

Releases

Library

Task groups

Deployment groups

Compliance

✓ #20190802.1: Bump lodash in /typescript-selenium-webdriver-sample (#49)

Triggered aug 1 at 6:00 pm for dependabot[bot] ⚡ microsoft/axe-pipelines-samples ➔ master ⚡ 1ffaaba

Release

Artifacts

⋮

Logs Summary Tests Scans

Summary

1 Run(s) Completed (1 Passed, 0 Failed)

4

Total tests
+44 ● Passed
0 ● Failed
0 ● Others

100%

Pass percentage
↑ 100%

14s 240ms

Run duration ⓘ
↑ +14s 240ms

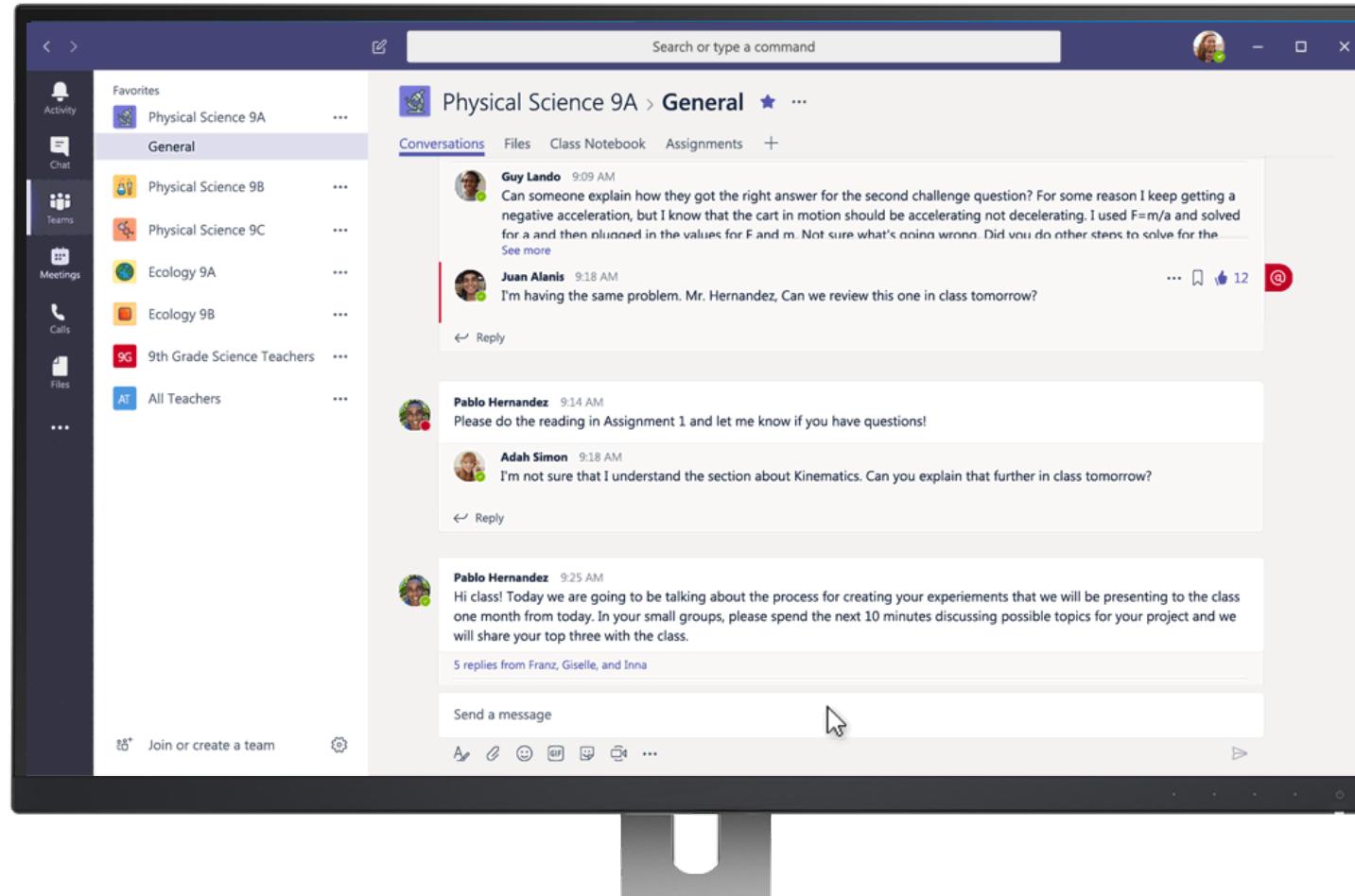
Test run Column Options

Filter by test or run name

Tags Test file Owner Outcome

Test	Duration	Failing since	Failing build	Tags
✓ ✓ typescript-selenium-webdriver-sample (4/4)	0:00:14.240			
✓ index.html has no accessibility violations in the h1 element	0:00:08.657			
✓ index.html has no accessibility violations outside of the known example violations	0:00:00.290			
✓ index.html has only those accessibility violations present in snapshot	0:00:00.290			
✓ index.html has only accessibility issues stored in our snapshot corresponding to only wcag2a and w	0:00:00.276			

Immersive Reader



What can it do?

n.
Learning Tools Immersive Reader
adj.

v. n. n.
creates a reading experience that

v. n.
adds accessibility and

Language

Learning Tools Immersive Reader

Immersive

creates a reading experience that adds accessibility and

Pronunciation

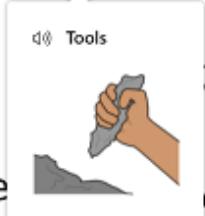
Learning Tools Immersive Reader

creates a reading experience

that adds accessibility and

Syllables

Learning Tools Immersive Reader



creates a reading experience that adds accessibility and

Pictures

Immersive Reader

Original | Spanish

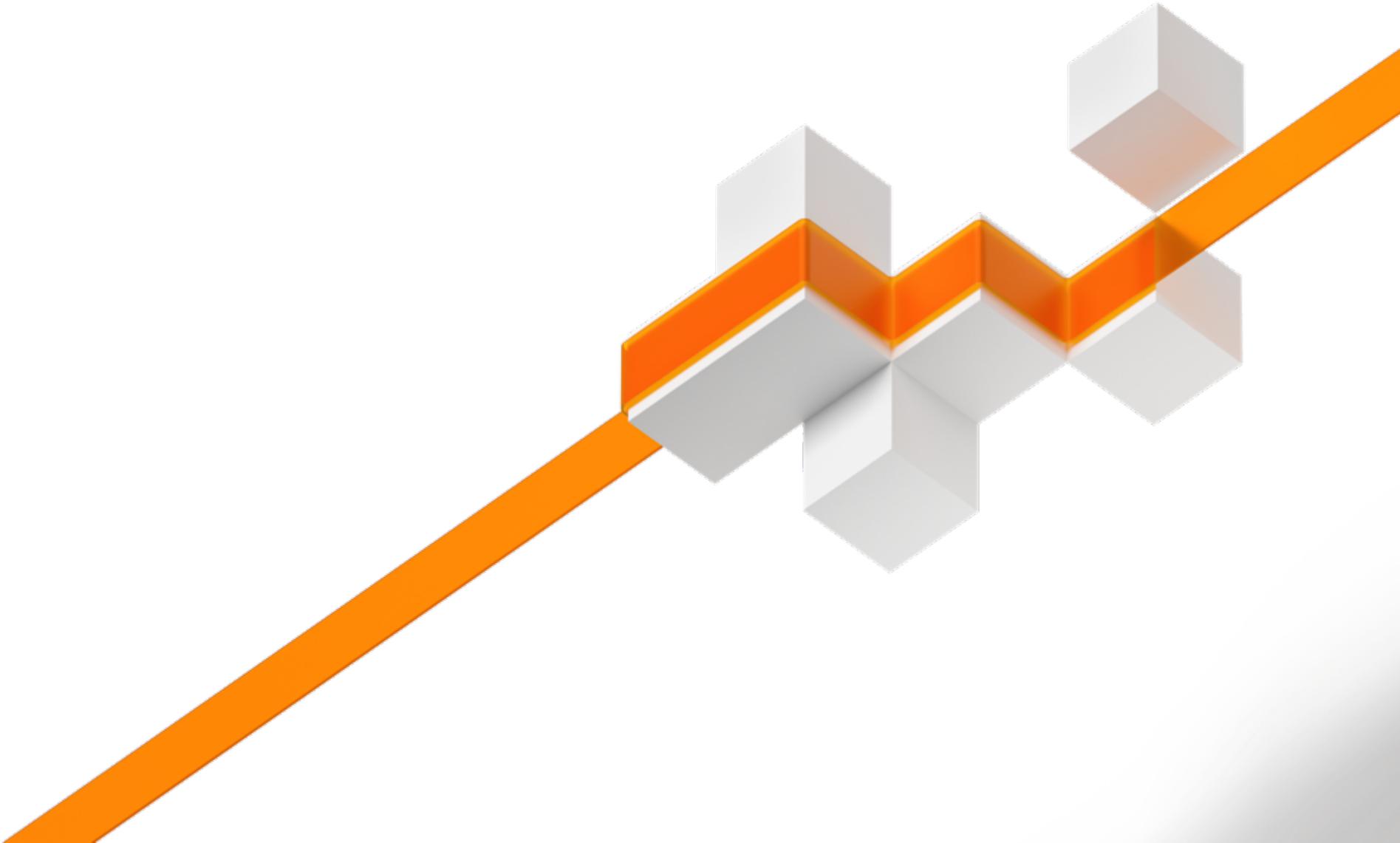


Learning Tools inmersiva Reader

crea una experiencia de lectura que añade accesibilidad y comprensión

Translate to 60 languages

Demo



Conclusion

1. Empathy
2. Shift Left
3. Automate



<https://aka.ms/for-all>



@rorypreddy