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Innovative Accessibility

Shifting Manual Testing Left to Development Teams

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#a11y

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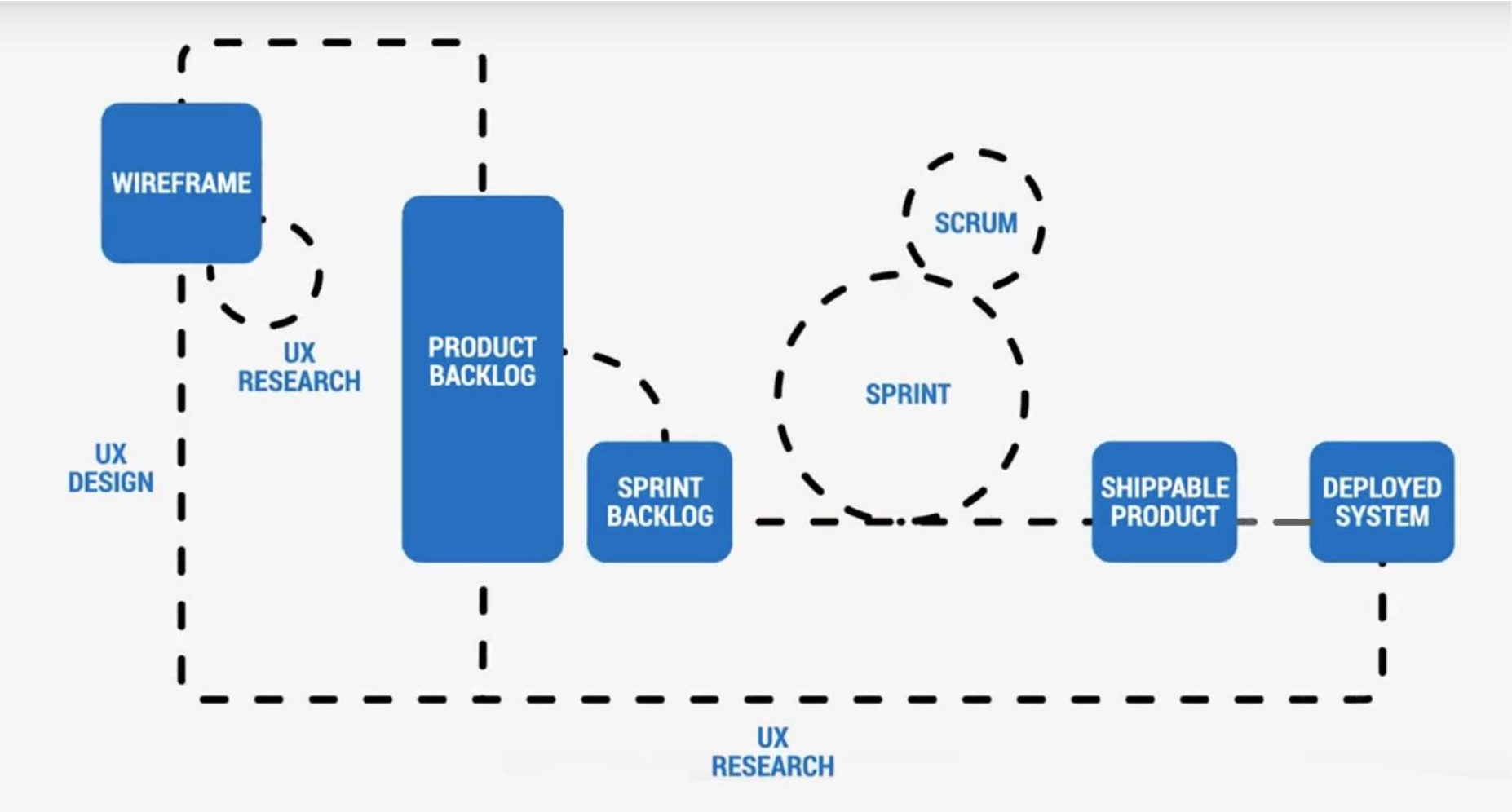
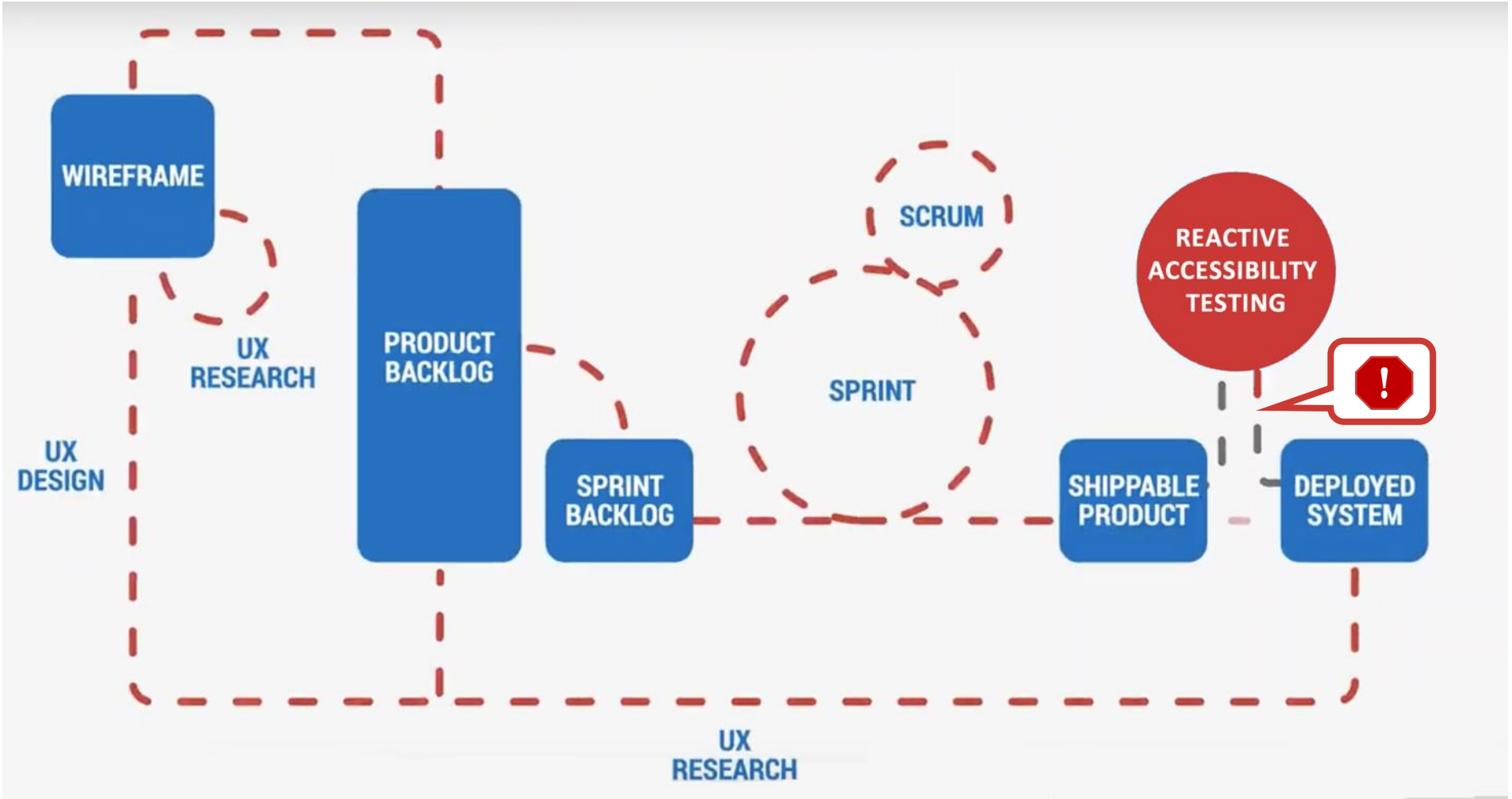
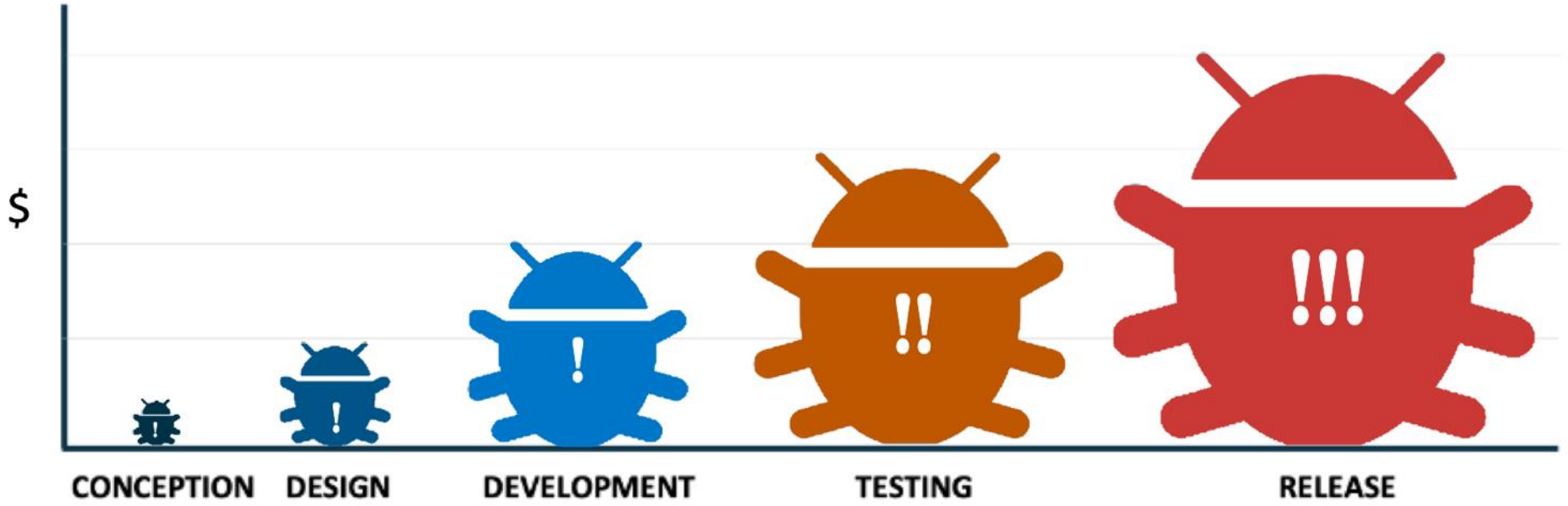
Where do YOU want to catch bugs in the SDLC?



Reactive Accessibility Testing
= Surprise, Risk, Higher Cost

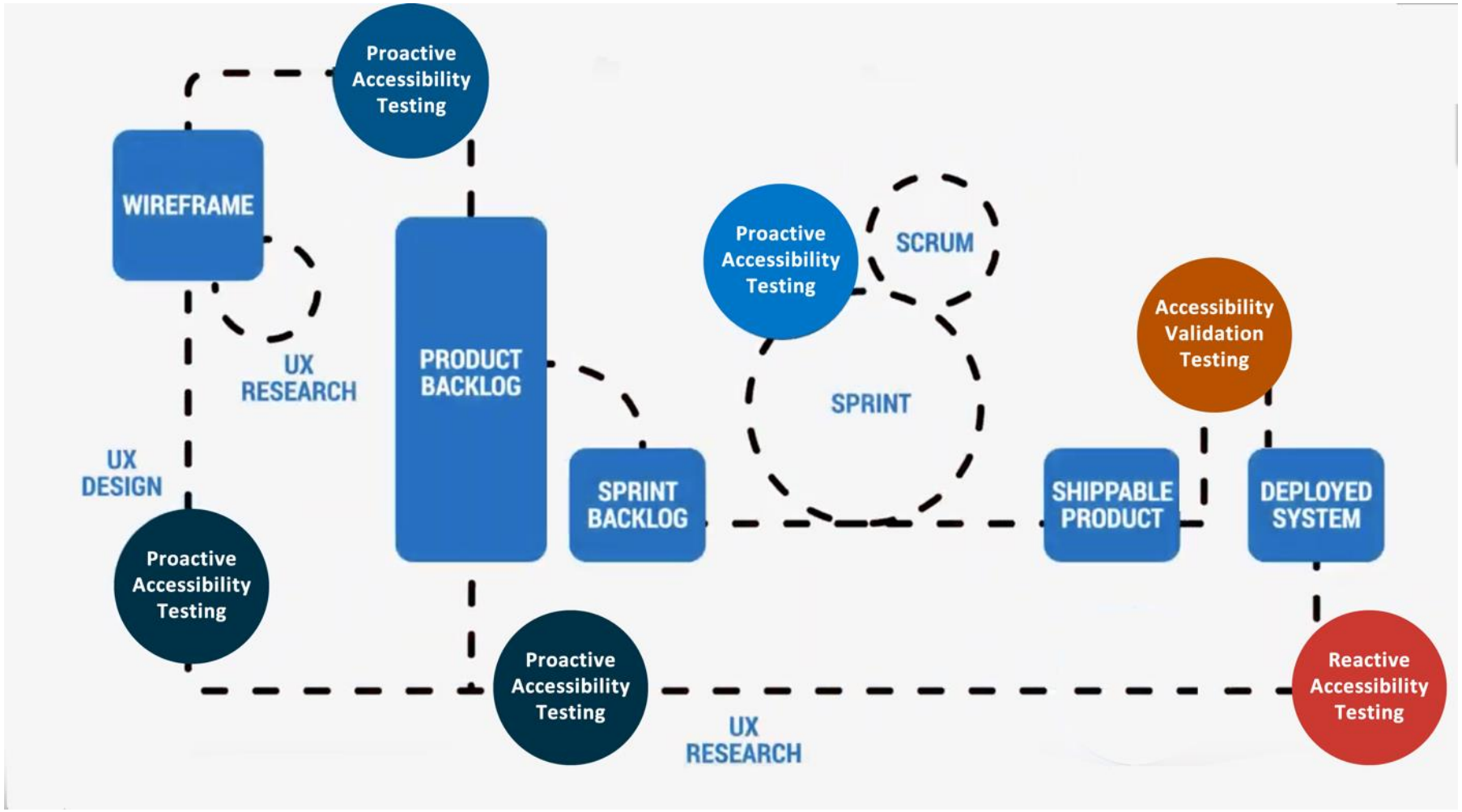


Cost of Accessibility Bugs



The longer it takes to discover an accessibility bug,
the more it will cost your organization to fix it.

Efficiently Shift Accessibility Testing Left

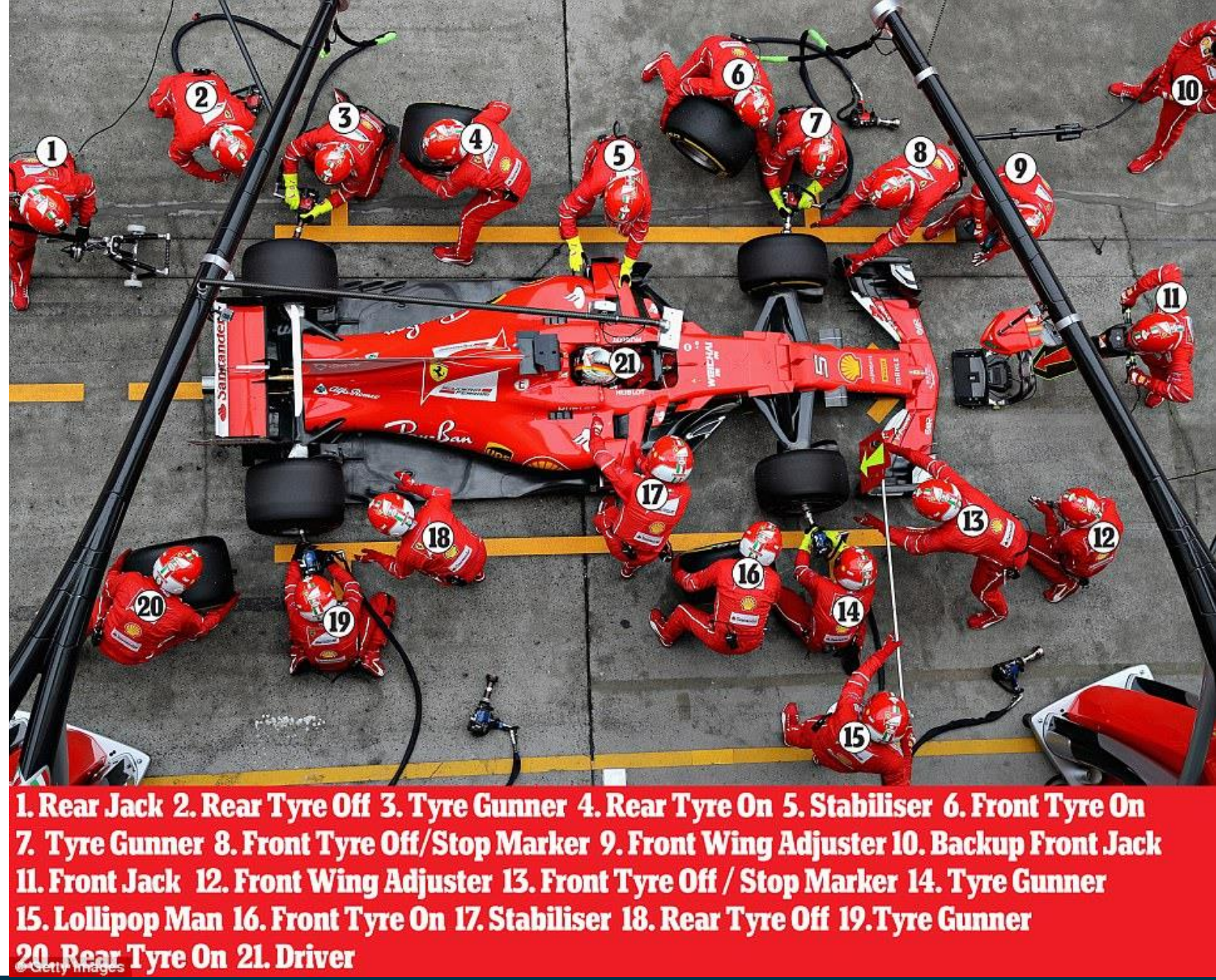


Smart A11Y Testing for Web Devs

OFFICAL
Sprint
MARTINSVILLE

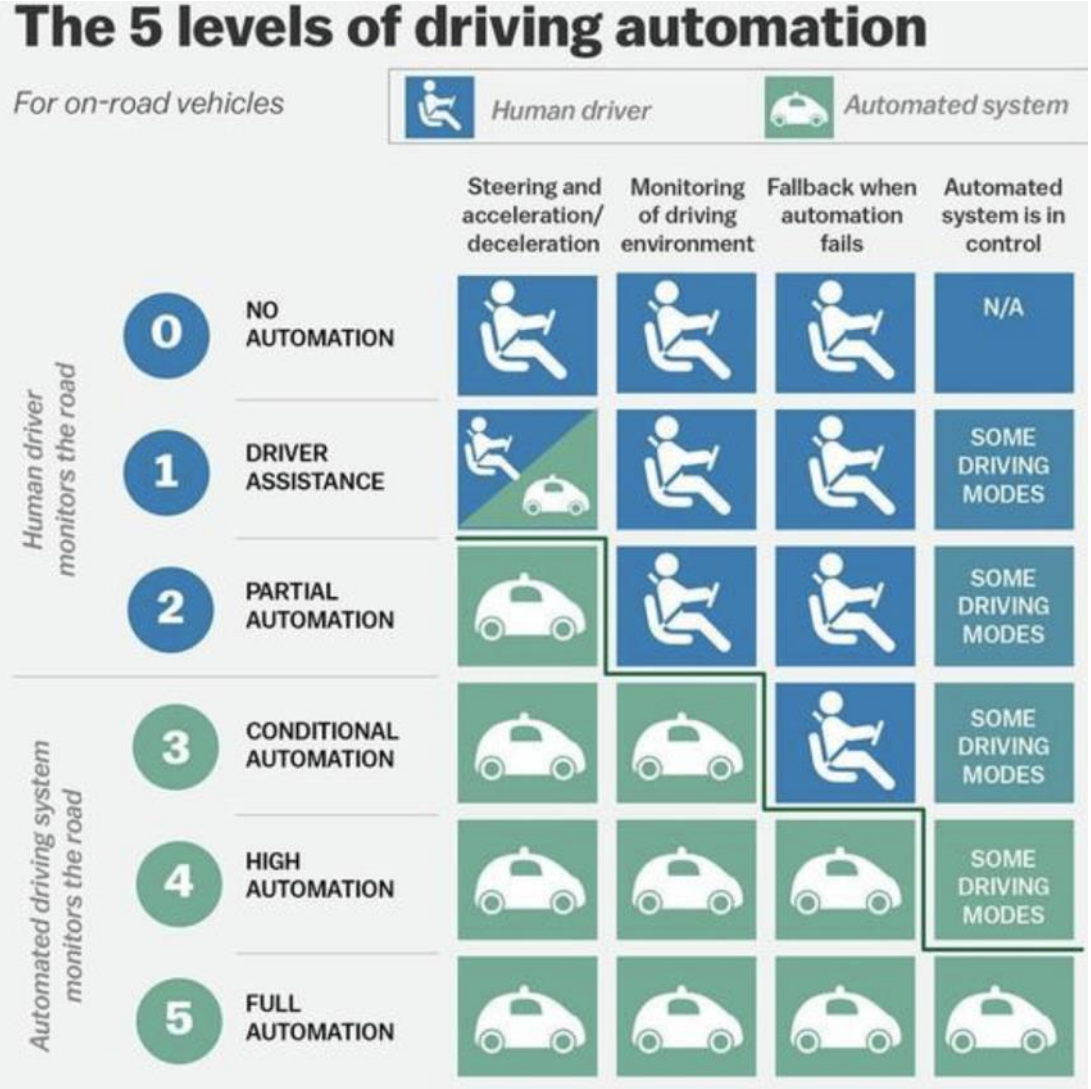
Efficient A11Y Testing for Devs

- Automated
- Smart Manual Testing



Who owns a self-driving car?

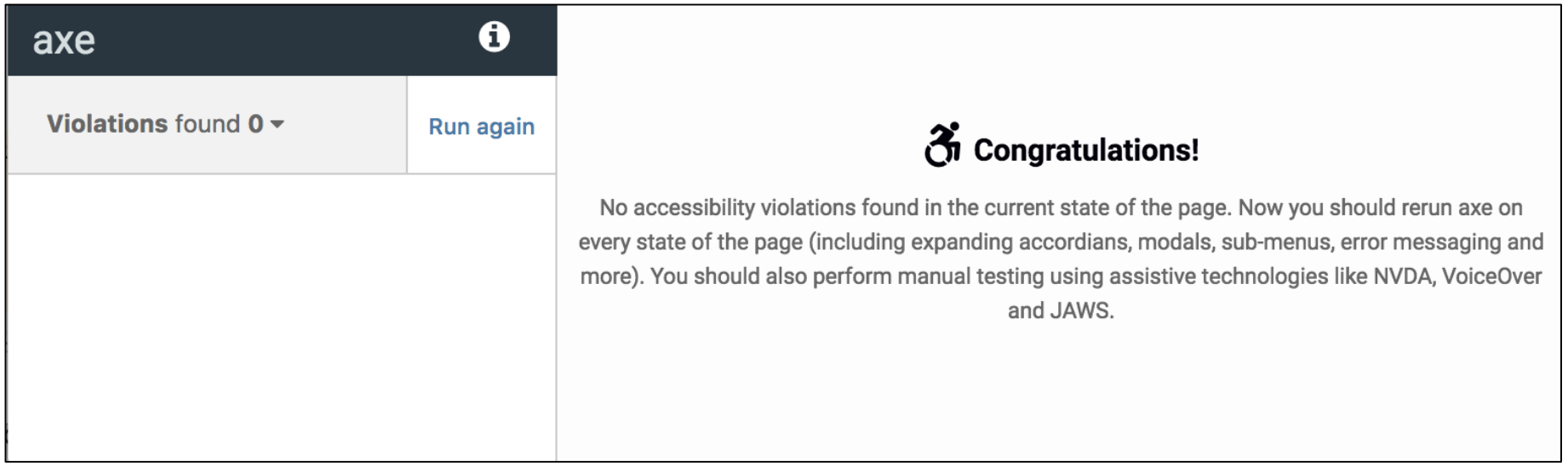
Levels of Self-Driving Cars & A11Y for Web Devs



- **0:** No A11Y Automation
- **1:** Dev Assistance
- **2:** Partial Automation
  - Auto A11Y
    - Integrate into every unit test
    - Default part of Formal Integration Testing
  - Dev Assistance
    - Run auto testing tool in browser
    - Perform targeted manual tests with best ROI

How do you stop 50% of a11y bugs in Development?

Run axe. Fix all Violations.
= 50% fewer WCAG Failures at QA!



commit to axe your a11y bugs

axe: quick free auto test in browser

- axe: The Accessibility Engine
  - easy to install and use
  - zero false positives
  - able to find up to 50% of your WCAG failures
    - Automated testing for 25% of types of issues
    - Proven to help you STOP more than 50% of your issues
  - explains how to fix the issues
  - browser extension flavors:
    - Chrome
    - Firefox

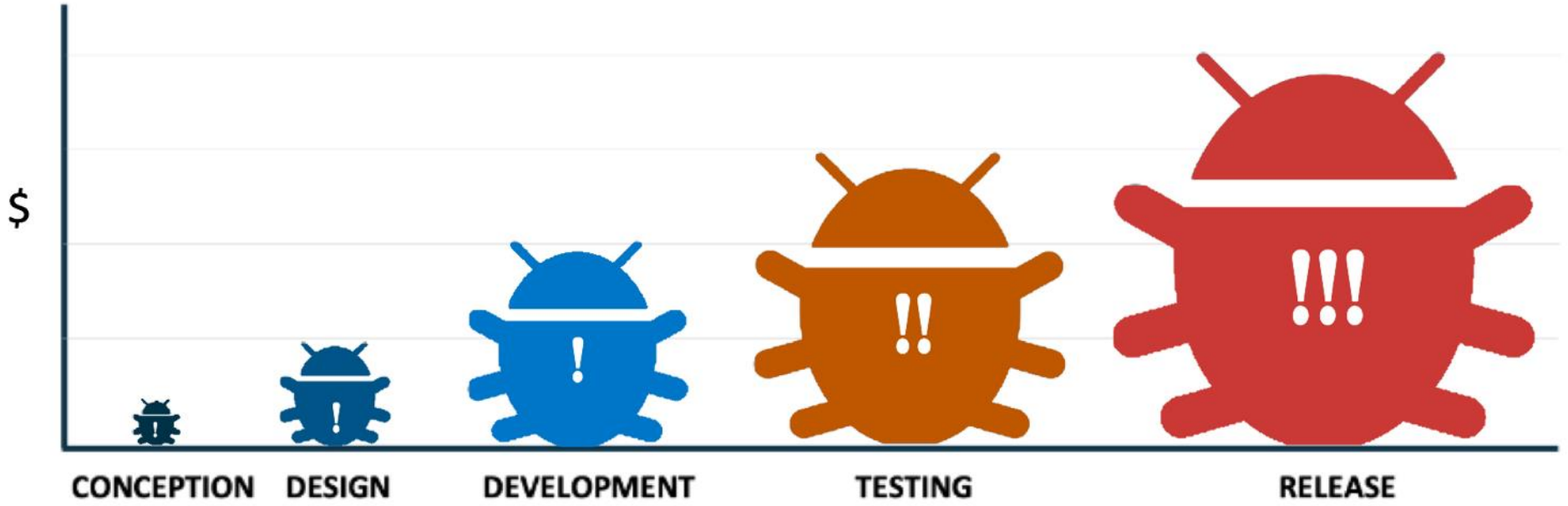
A11Y in Automation Integration Testing Framework

- Defect prevention
- Catch 50% or more of accessibility issues in Sprint
- Flavors:
  - Open Source: axe-core library on github
  - Professional Grade: Worldspace Attest
    (built in integration support)

WorldSpace Attest

Can I stop at just fixing axe bugs?

Cost of Accessibility Bugs



The longer it takes to discover an accessibility bug,
the more it will cost your organization to fix it.

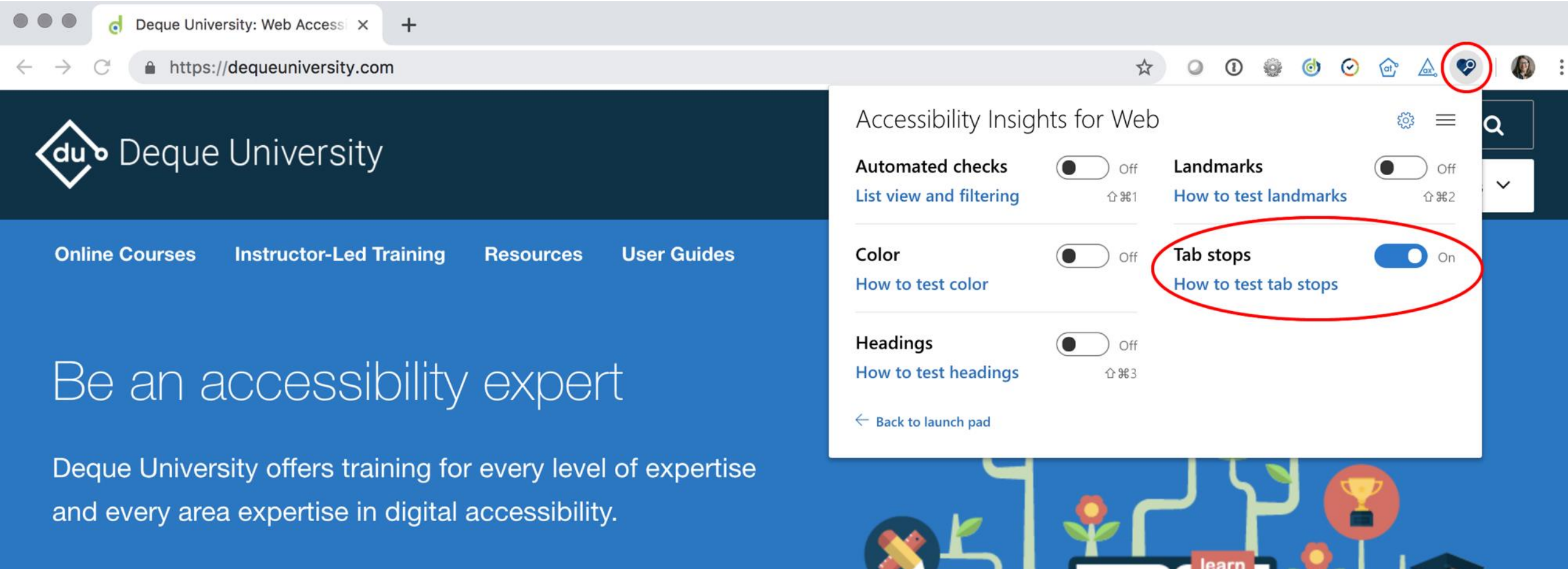
Keyboard Testing

Make Sure Everything Works using Keyboard Alone

Is the Tab Order Logical

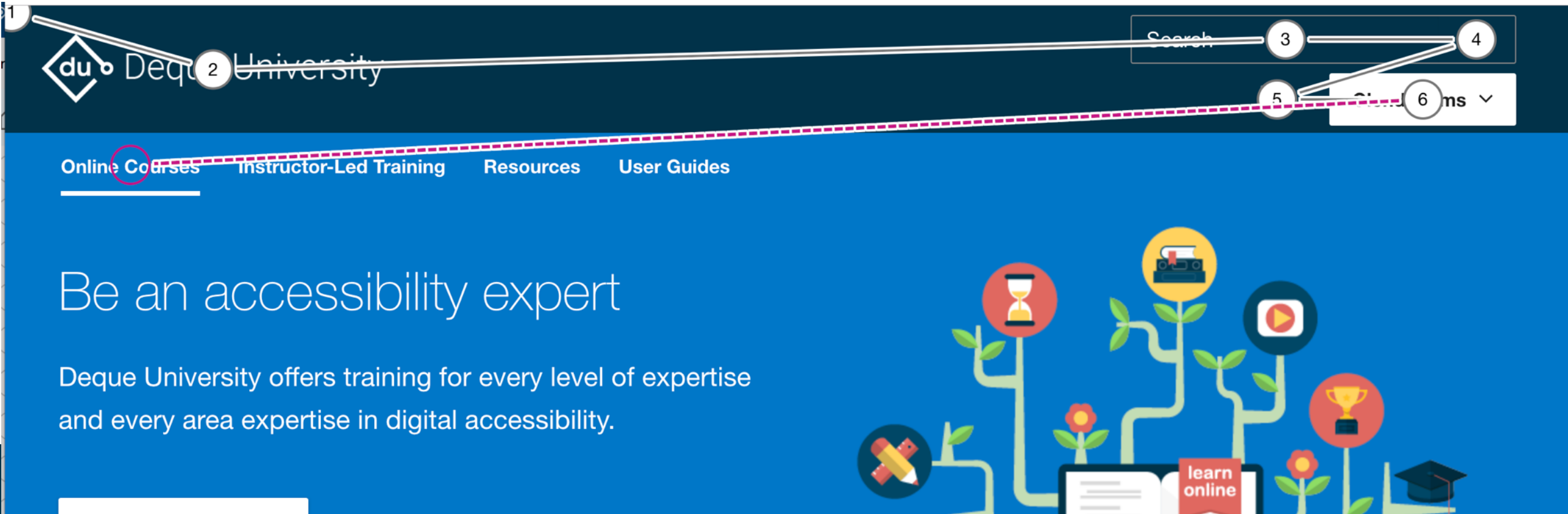
Testing for Logical Tab Order

- Use Microsoft's Accessibility Insight extension for Chrome
- Open Ad Hoc Tools and turn on the Tab stops option.



Visualize Tab Stops

- Press tab to visualize the tab stops.
- No fair using your mouse. Just use tab on the keyboard.
- Is the tab order logical?



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WorldSpace Attest HTML Extension

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Search

Tools Services & Training News & Resources Compliance Company axe

<h1>

Accessibility for Good

Meet your compliance goals and help make the web a better place.

Learn More

Talk to an expert

Elements Console Sources WorldSpace »

SimulAT 2

Select a Tool: Experimental

- Headings
- Links
- Lists
- Images
- Focus
- Frames
- Objects

Headings Tool

CLEAR HIGHLIGHTS

Heading Level and Accessible Text

- 1 Accessibility for Good
  - 2 Latest News
    - 3 Blog Post Moving Beyond axe to WorldSpace for the Enterprise
    - 3 On-Demand Webinar The Accessibility Legal Landscape
    - 3 Free Tool Calculate the Cost of False Positives
    - 3 Podcast Fedscoop and Preety Kumar Discuss New Section 508 Rules
  - 2 What you need to know about Accessibility
    - 3 Design
    - 3 Development
    - 3 Compliance
  - 2 Accessibility leadership you can trust

Meet one of our Awesome Tool Engineers

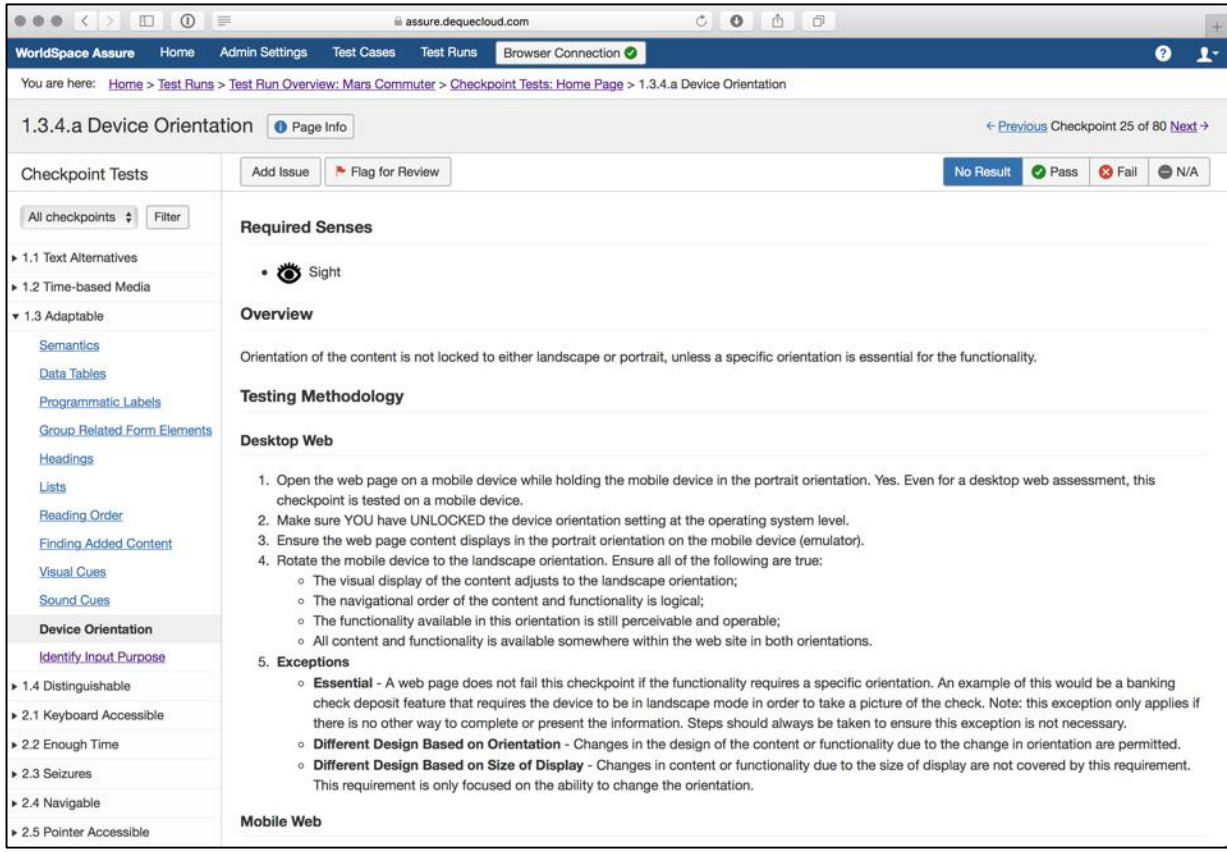
- **Combining Automated Testing Tools with Comprehensive Audits**
  - Friday at 1:20 PM
  - Matt Isner

WorldSpace Assure

Guided Manual Testing with rocket boosters

WorldSpace Assure

- Integrated axe-core testing
- Guided manual testing
  - Detailed Methodology
  - Accurate for WCAG 2.0 and 2.1 Normative
- Issue Description Library
  - Vetted by Deque Experts
- Remediation Recommendation Library
  - Integrated with Deque University Content



How many A11Y testing tools do YOU have in your toolbox?

A Few Commonly Used Free Tools

- axe html extension
- accessibility extensions with axe-core rules built in
  - Google Chrome Dev Tools / Lighthouse
  - Microsoft Accessibility Insight
  - ACE by Daisy
  - Pa11y
  - and more…
- independent tools
  - Andi - https://www.ssa.gov/accessibility/andi/
  - Functional Accessibility Evaluator – https://fae.disability.illinois.edu/
  - Wave - https://wave.webaim.org/
  - and more…
- javascript bookmarklets
  - Paul J. Adam's Bookmarklets - http://pauljadam.com/bookmarklets/
  - Faulkner's WCAG Parsing Only Bookmarklet - https://s.codepen.io/stevef/debug/VRZdGJ
  - and more…

Bookmarklets Beware

- Did you know, a bookmarklet can:
  - see everything on the page
  - read cookies and local storage
  - interact with the server the page came from
  - make cross-domain requests

- If your IT Security Team knew you had installed boo
  - They would be very likely to remove your admin privldges

How Will You Win the A11Y Race?

Commit to Shift Left

1. *Run axe extension. Fix all violations.*
2. *Use automated unit & integration testing*
3. *Targeted Manual Testing*
   - *Keyboard*
   - *Focus Order*

Want to Do More?

ACCESSIBILITY CHECKLIST

Your guide to basic web accessibility compliance...

ADA compliance in the 21st century means making sure your website and applications can be accessed and used by people with disabilities and the assistive technologies they use to navigate the web. For banks, that also means ensuring your online banking and other personal financial management applications are also accessible.

How do I know if my web content is accessible?

To ensure that your organization's site and applications are accessible, you'll want to perform automated and manual accessibility testing against web accessibility standards or regulations. The U.S. and international standard for accessibility is WCAG 2.0 AA compliance, and our checklist is based on that very standard.

Pro Tip! WCAG, a.k.a. the Web Content Accessibility Guidelines, are the technical guidelines created by the World Wide Web Consortium (W3C) for creating accessible web-based content. WCAG serves as the basis of accessibility regulations throughout the planet including the US, Canada, the UK, the EU, Australia, and Japan.

The 5 major categories of disabilities are...

Visual — Includes blind, low-vision, and color blind

Speech — Includes people who are not able to speak

Hearing — Includes deaf and hard of hearing

Cognitive — Includes dyslexia, ADD, and epilepsy

Motor — Includes people who are not able to use a mouse

"The power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect."

-Tim Berners-Lee

Testing for Accessibility

The Deque Team developed this Accessibility Checklist to help your developers, designers, QA testers, and content creators get a head-start on 12 core accessibility requirements. These checks are a subset of WCAG 2.0 AA requirements that provide the most ROI in a very short time frame.

This Accessibility Checklist does not replace the need for a complete WCAG 2.0 review by an expert. It does however empower your team to begin testing for these accessibility requirements right away!

Pro Tip! A11y is an abbreviation for accessibility (which has 11 letters between "a" and "y") commonly used as shorthand for digital accessibility.

Before you get started...

Make sure you visit www.deque.com/aXe to download the **free** aXe browser extension to perform automated accessibility tests on your website. aXe is easy to install and to run, and there's a short tutorial video on the aXe page if you need any help.

TOP 12 ACCESSIBILITY CHECKS

Color

1. **Is color alone used to convey important information?**
   - **How to check:** View the page in gray-scale. Can you still understand all the information and perform all page functions?
   - **Primarily Benefits:** Colorblind
   - **Requirement:** WCAG 2.0 SC 1.4.1
2. **Is the color contrast of text readable by people with low-vision?**
   - **How to check:** aXe should not detect any issues related to color contrast.
   - **Primarily Benefits:** Low-Vision
   - **Requirement:** WCAG 2.0 SC 1.4.3

Images

3. **Do all images have alternative text?**
   - **How to check:** aXe should not detect any issues related to missing alt text.
   - **Primarily Benefits:** Blind
   - **Requirement:** WCAG 2.0 SC 1.1.1

https://www.deque.com/info/

Developers!
Start your
A11Y Engines!

Connect with Deque

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