
Making IT accessible for all! (Full version)

Dr Fiona Strawbridge

Matthew Deeprose

Tamsyn Smith



Who we are



Matthew Deeprose
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University of Southampton



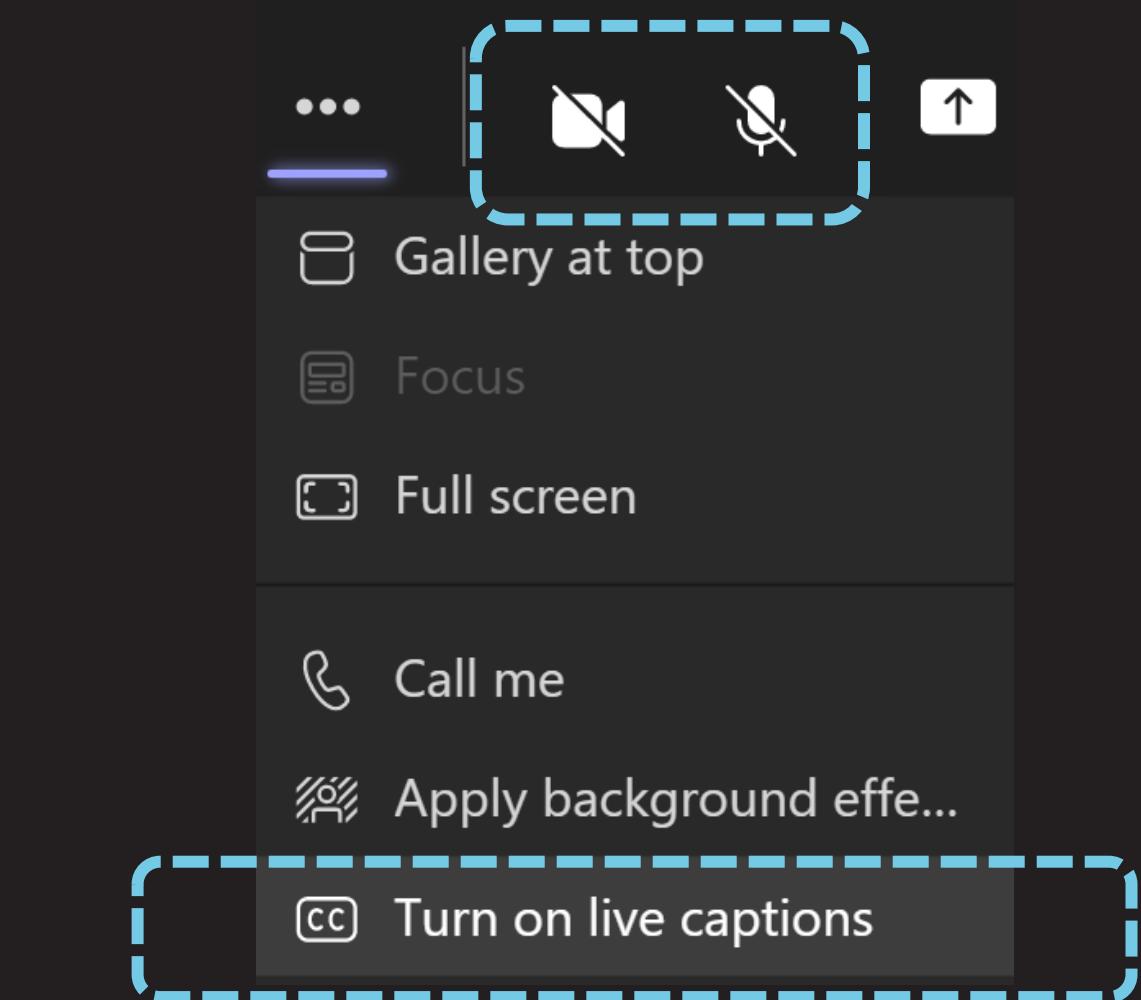
Tamsyn Smith
Senior Learning Designer Team Lead
University of Southampton



Dr Fiona Strawbridge
Director of Digital Education
University College London

Housekeeping

- The session will be recorded.
- Turn microphones and cameras off.
- Automated captions available.



Housekeeping



Question
breaks



Acronyms



Polls



Continuing the
discussion

Two polls ready to answer

Does your IT department have an IT accessibility policy?

- Don't know.
- No, and no plans to create one.
- No, but we are starting to consider it.
- Yes, but it has not been approved.
- Yes, and it has been approved.

Does your IT department have an accessibility testing process?

- Don't know.
- No.
- Some accessibility testing is done informally.
- Yes, we have a formal accessibility testing process.

Challenges and opportunities



How to respond?



What policy?



Empowering all users



Developing IT staff



What processes?



So many services!



New efficiencies



Better experience



What is achievable?



Prioritisation



Accessible by design

Why concentrate on IT departments?



Institutional approach:
most effective.



IT departments have
specific attributes.



Lots of services



Technical details



Embedded in
institution



Leaders



Potential
impact



Can act now

In this presentation we aim to



Place digital accessibility within a wider-context.



Introduce a pathway for implementing digital accessibility within your IT department.



Share practical examples of how accessibility can be embedded within the policies and processes of an HE IT department.

We won't have all the answers



We're all at different stages in this journey.



As a community we can share practices and progress.



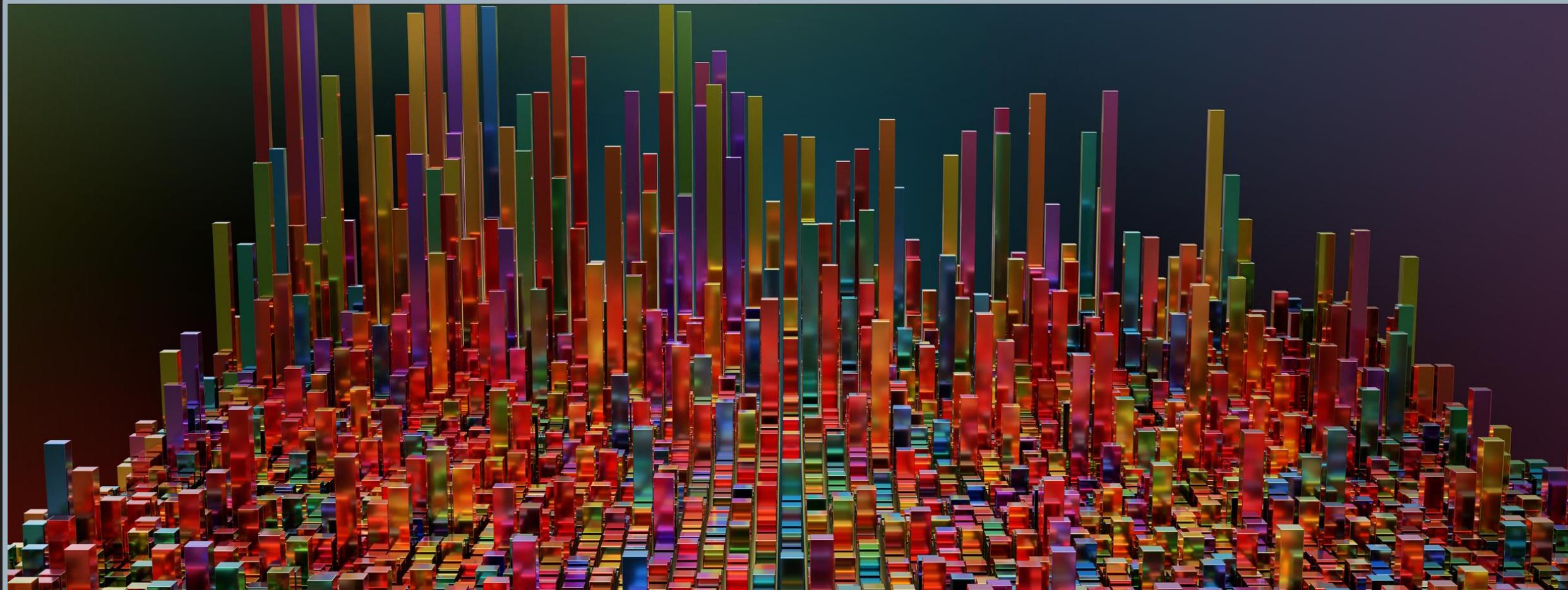
We'll follow up unanswered questions after this event.

Where are you on the maturity model?

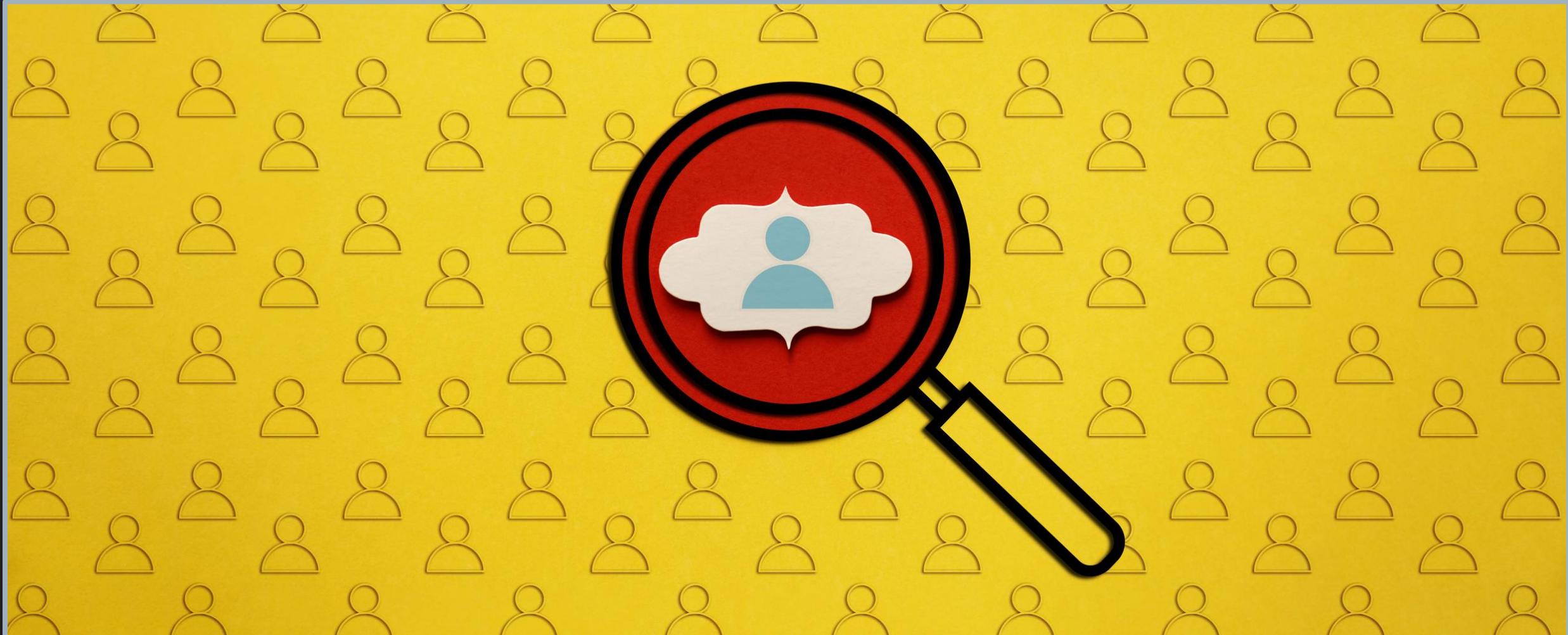
	1	2	3	4	5
Stage	Luck	Tokenism	Standards	Ownership	Partnership
Typical quote	With luck no one will ask us about accessibility.	We have one accessibility statement. It's on our corporate site.	All our systems meet WCAG 2.1 AA.	We've adapted our policies and processes to ensure the accessibility of our services.	We co-design and test services with users, including those with disabilities or impairments.



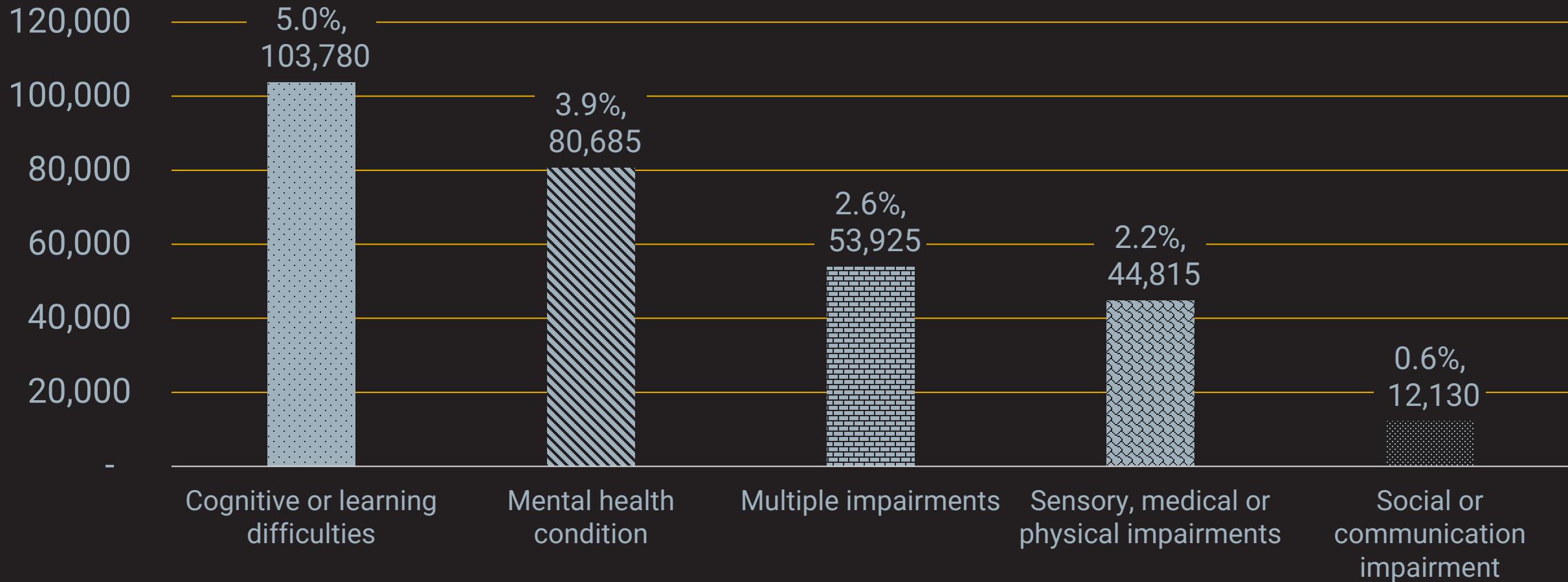
Background and context



Disclosure

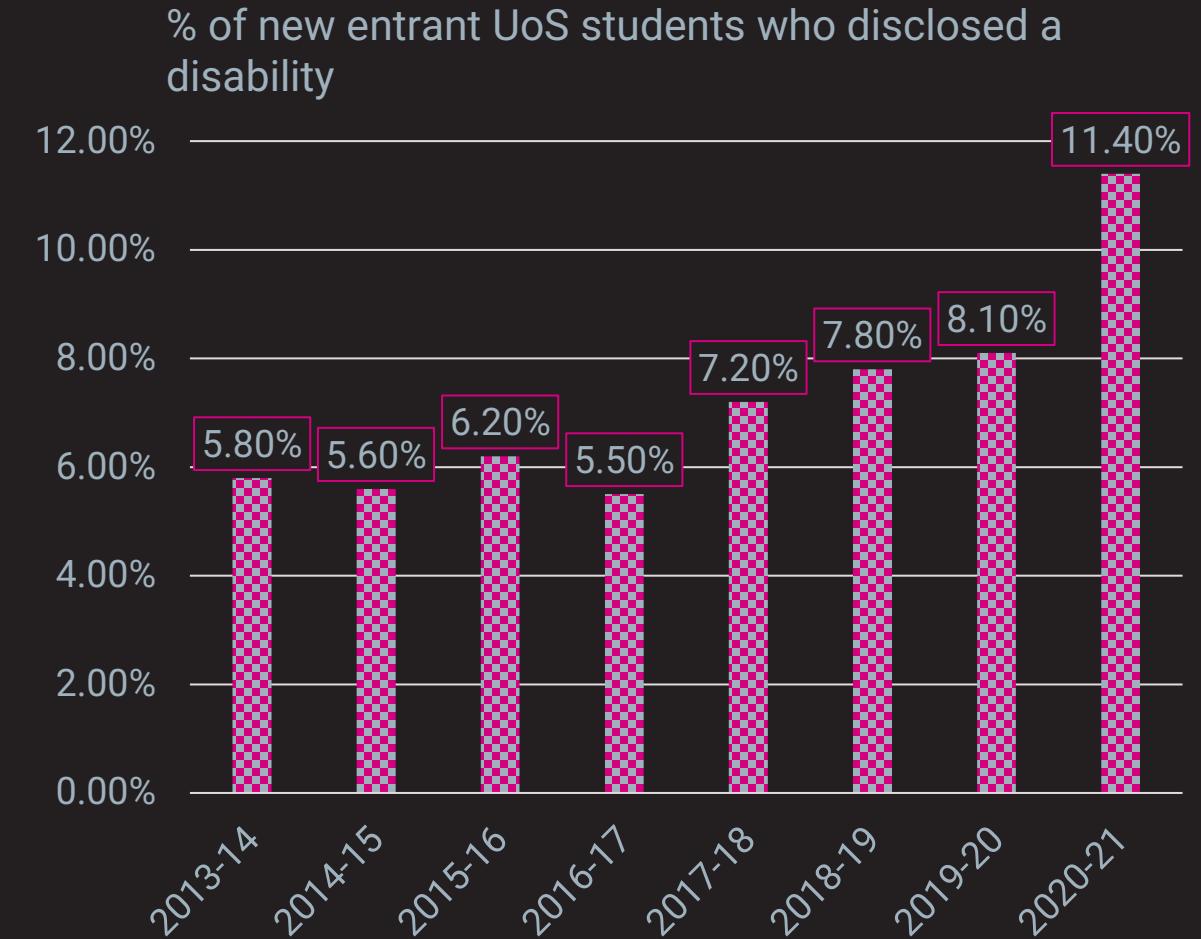
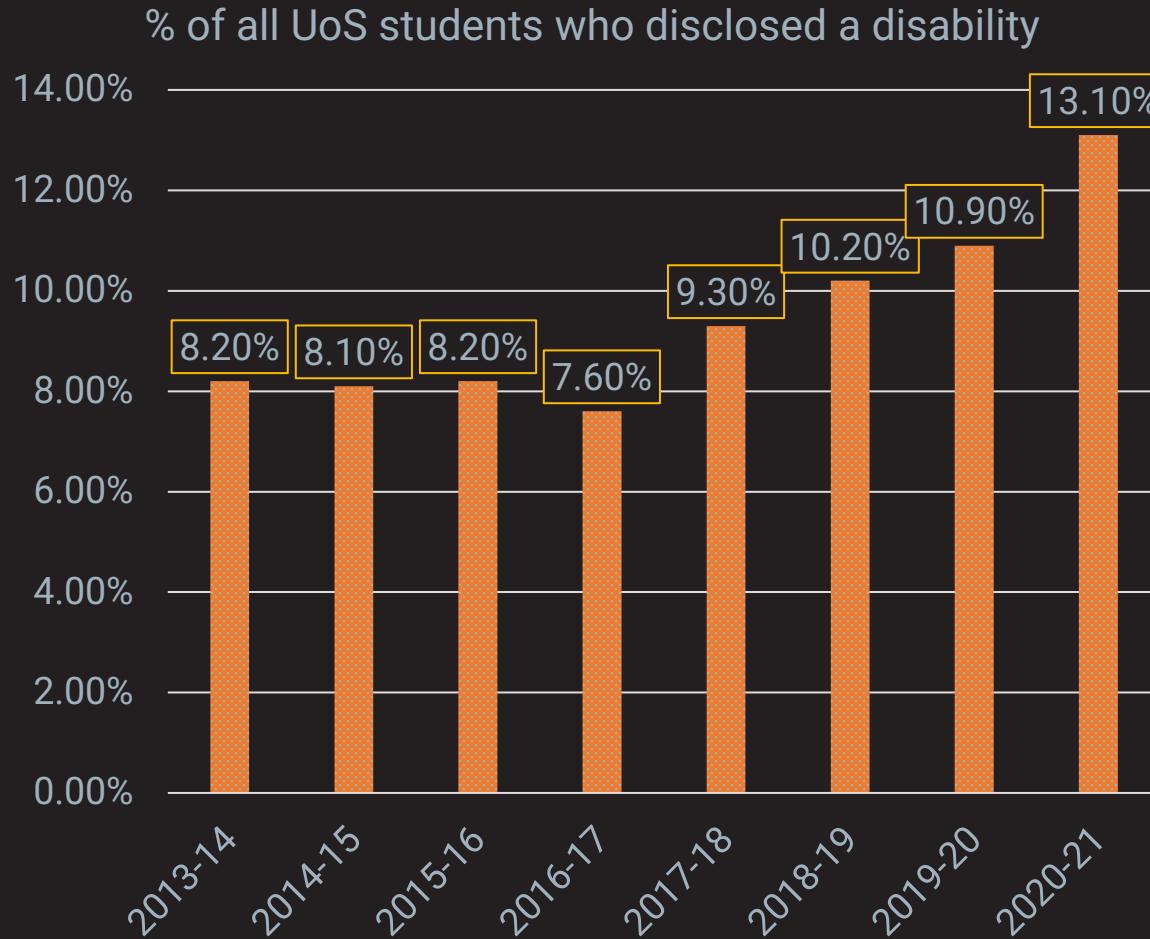


Proportion of students studying in England who declared a disability by impairment, 2018-19



Source: Office for students.

Student Disclosure trends at UoS



Do users report frustration with your online services?



Top 4 web frustrations: also accessibility issues.



Top 4 web frustrations: also accessibility issues.1

The top 4 frustrations:

- Unwanted interruptions: 28%
- Poor user experience: 19%
- Poor readability: 18%
- Poor form usability: 15%

Interruptions and distractions:

- 3.2.1 On Focus
- 1.4.2 Audio Control
- 2.2.2 Pause, Stop, Hide
- 2.3.1 Three Flashes or Below Threshold

Top 4 web frustrations: also accessibility issues.

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UX – Information structure and navigation:

- 2.4.5 Multiple Ways
- 2.4.6 Headings and Labels
- 3.2.3 Consistent Navigation
- 3.2.4 Consistent Identification

Top 4 web frustrations: also accessibility issues.

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- Unwanted interruptions: 28%
- Poor user experience: 19%
- **Poor readability: 18%**
- Poor form usability: 15%

Readability:

- 1.4.1 Use of Colour
- 1.4.3 Contrast (Minimum)
- 1.4.4 Resize text
- 1.4.5 Images of Text
- 1.4.10 Reflow
- 1.4.11 Non-text Contrast

Top 4 web frustrations: also accessibility issues.

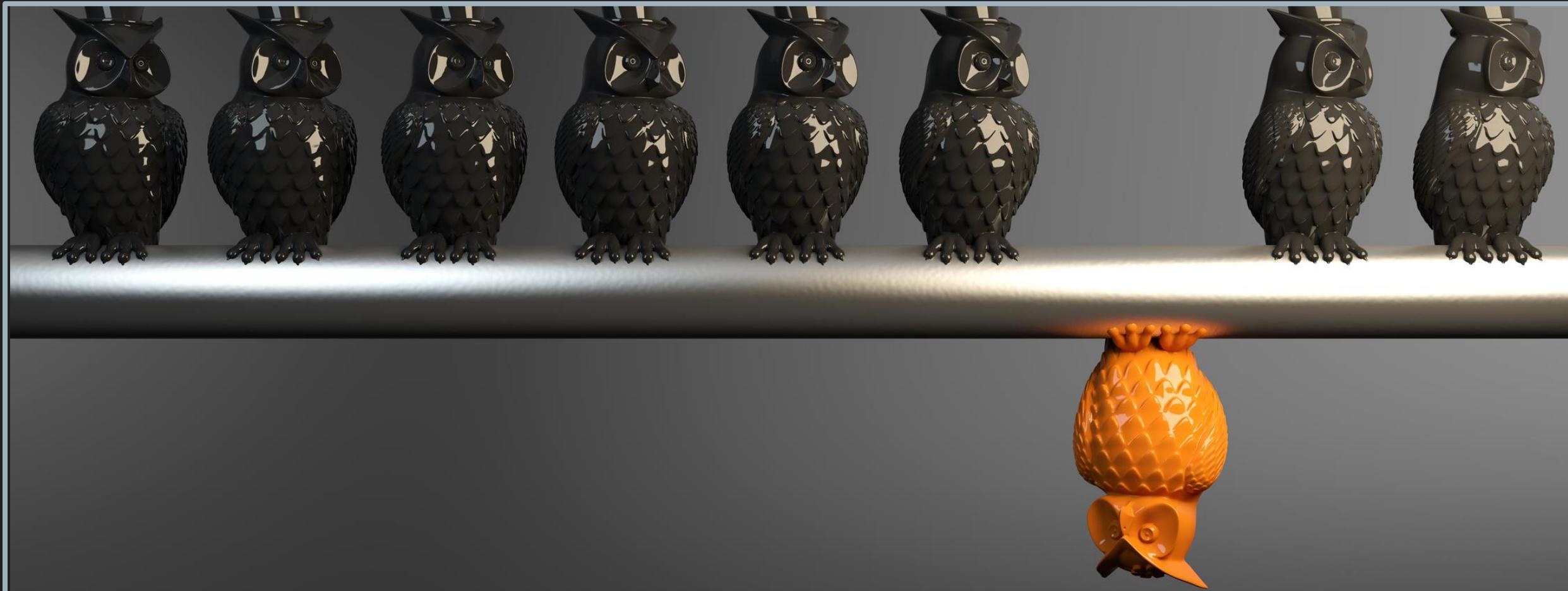
The top 4 frustrations:

- Unwanted interruptions: 28%
- Poor user experience: 19%
- Poor readability: 18%
- Poor form usability: 15%

Form usability:

- 3.3.1 Error Identification
- 3.3.2 Labels or Instructions
- 3.3.3 Error Suggestion
- 3.3.4 Error Prevention (Legal, Financial, Data)

Changing perspectives



Nicola Yap, Google

I challenge you to reframe accessibility as customisation.

...features like dark mode or captions are really a way to customise your user experience, and these customisations are beneficial to everyone.

We all find ourselves in different contexts where we need to adjust how we interact with our devices and the people around us.



Jamie Gruman: Professor of organisational behaviour at Ontario's University of Guelph

“In a post-pandemic age, what employees want is to be taken care of not as just employees, but as people... The era of thinking about performance and productivity divorced from the rest of life is over. We now have to consider those things in the context of people’s lives.”



“Diversity wins”



“Greater diversity... is correlated with significantly greater likelihood of outperformance. More than that, fostering a diverse and inclusive culture is a critical success factor: it enables individuals both to shine in their own right and to pull together as a team.”

Principles



Prioritise effort where it will have most impact.



Explain the benefits.



Plan for new services, remediate existing services based on priority and impact.

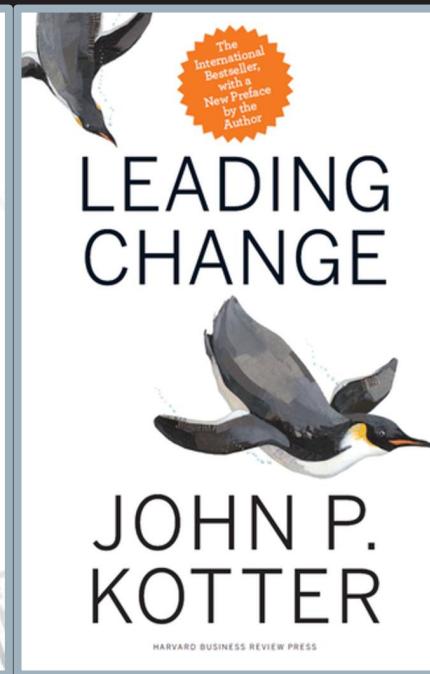


Compliance does not guarantee a good experience any more than non-compliance guarantees bad one.

Choosing a path



Three pathways

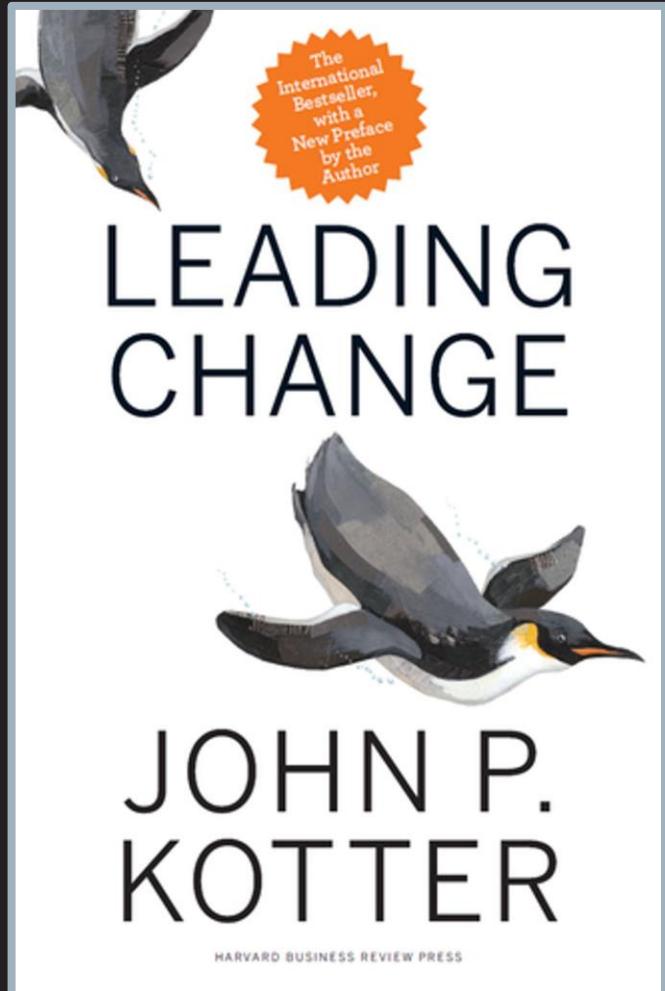


ISO/IEC 30071-1:2019



- Proprietary
- Option of certification
- Broadly similar to W3C recommendations
- Adoption in full may be beyond the scope of a University IT department

Kotter's 8 steps



- A methodology for leading change.
- Not specific about accessibility.

Applying Kotter's 8 steps to Digital Accessibility



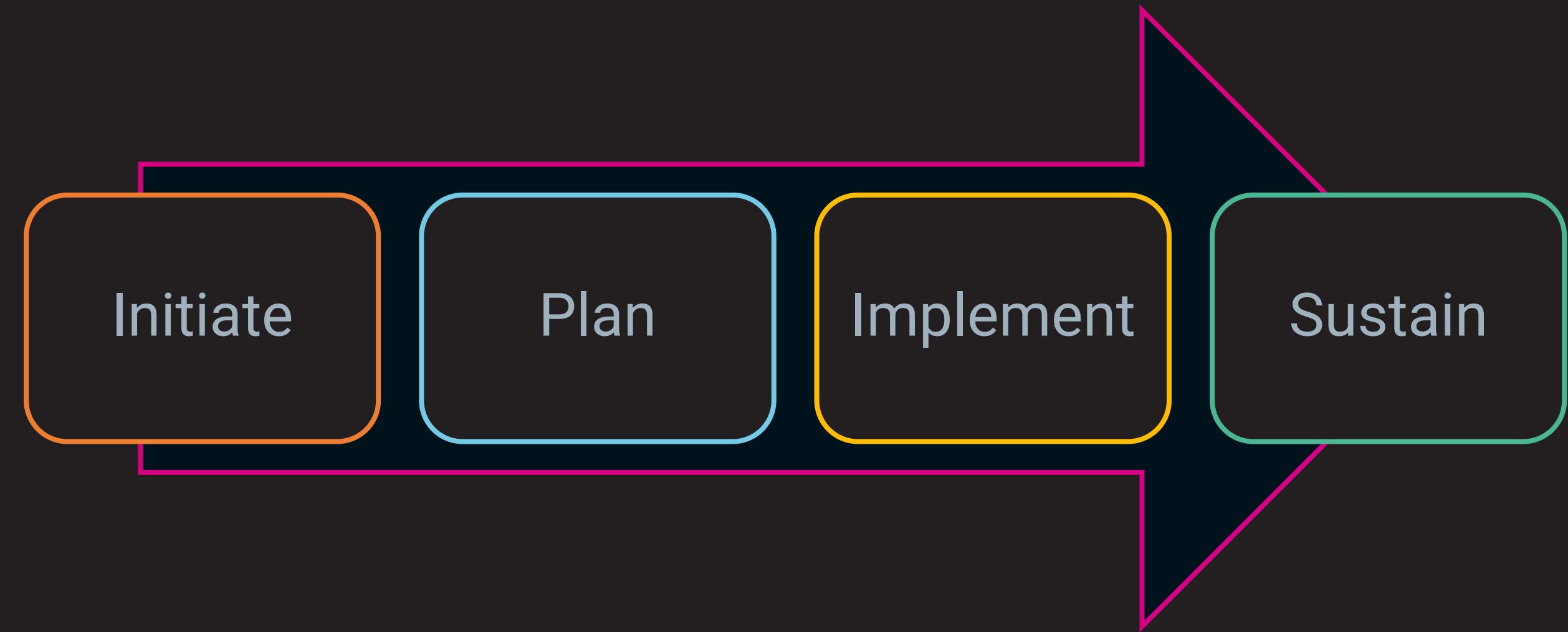
Lilian Soon
Educational Adviser at University of York

SHIFTING DIGITAL ACCESSIBILITY PRACTICE

23/01/2020 · by Isoon · in E-accessibility, Miscellaneous. ·

Universities and Colleges in the UK are working to comply with the 2018 regulations for digital accessibility. From discussions on mailing lists and webinars, it is clear that each institution is approaching this in their own unique way. I'd presented an update on our progress on Digital Accessibility at the ALTNE forum and the Blackboard Ally UK user group online meeting in Nov 2019. It made me curious about how we were doing relative to others, how we could measure this difference and perhaps select some other great ideas out there to try.

Planning and Managing Web Accessibility



Planning and Managing Web Accessibility

Initiate

- Learn the basics
- Explore current environment
- Set objectives
- Develop business case
- Raise awareness
- Gather support

Plan

- Create policy
- Assign responsibilities
- Budget / resources
- Review
 - environment
 - websites
- Monitoring
- Engage stakeholders

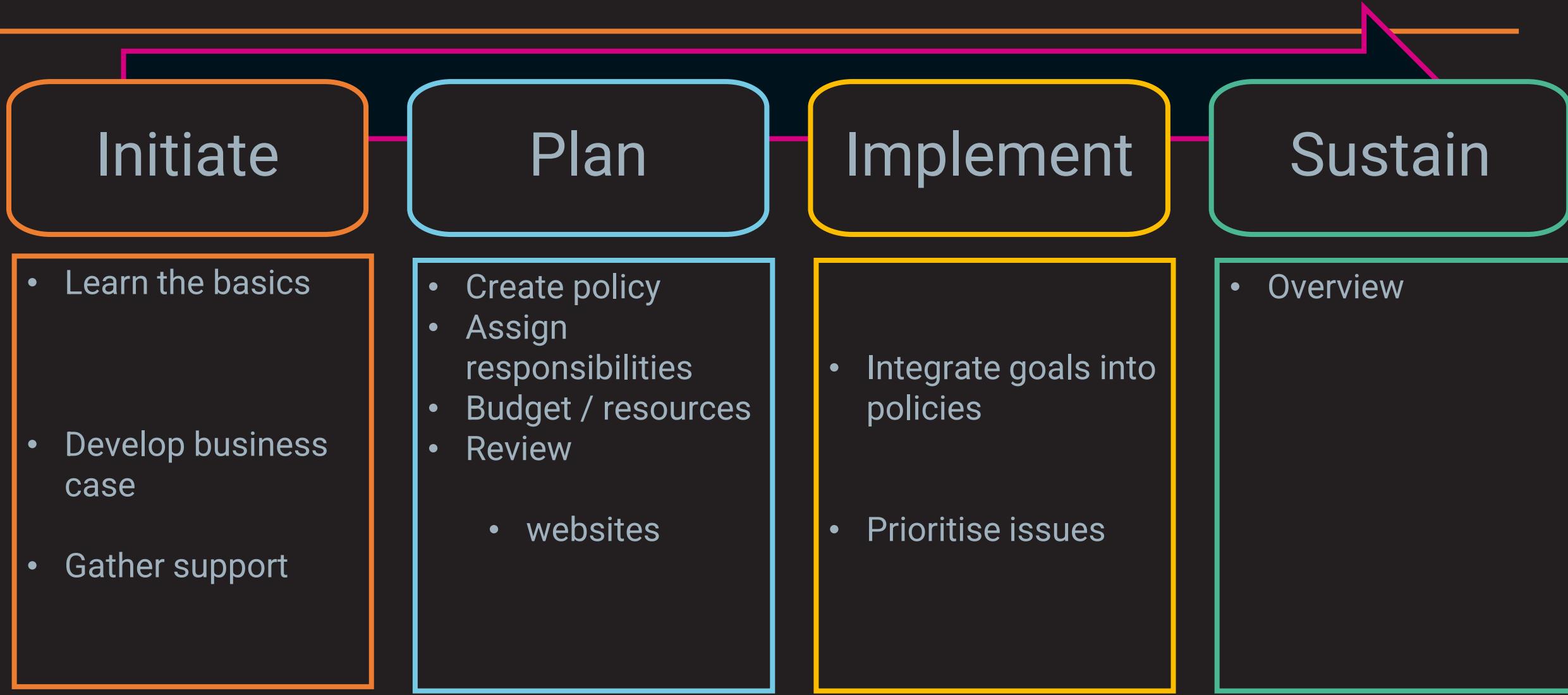
Implement

- Build skills and expertise
- Integrate goals into policies
- Assign tasks
- Evaluate
- Prioritise issues
- Track / communicate progress

Sustain

- Monitor services
- Engage with stakeholders
- Track standards and legislation
- Adapt to new technologies
- Incorporate user feedback

Planning and Managing Web Accessibility



W3C Planning and Managing Accessibility



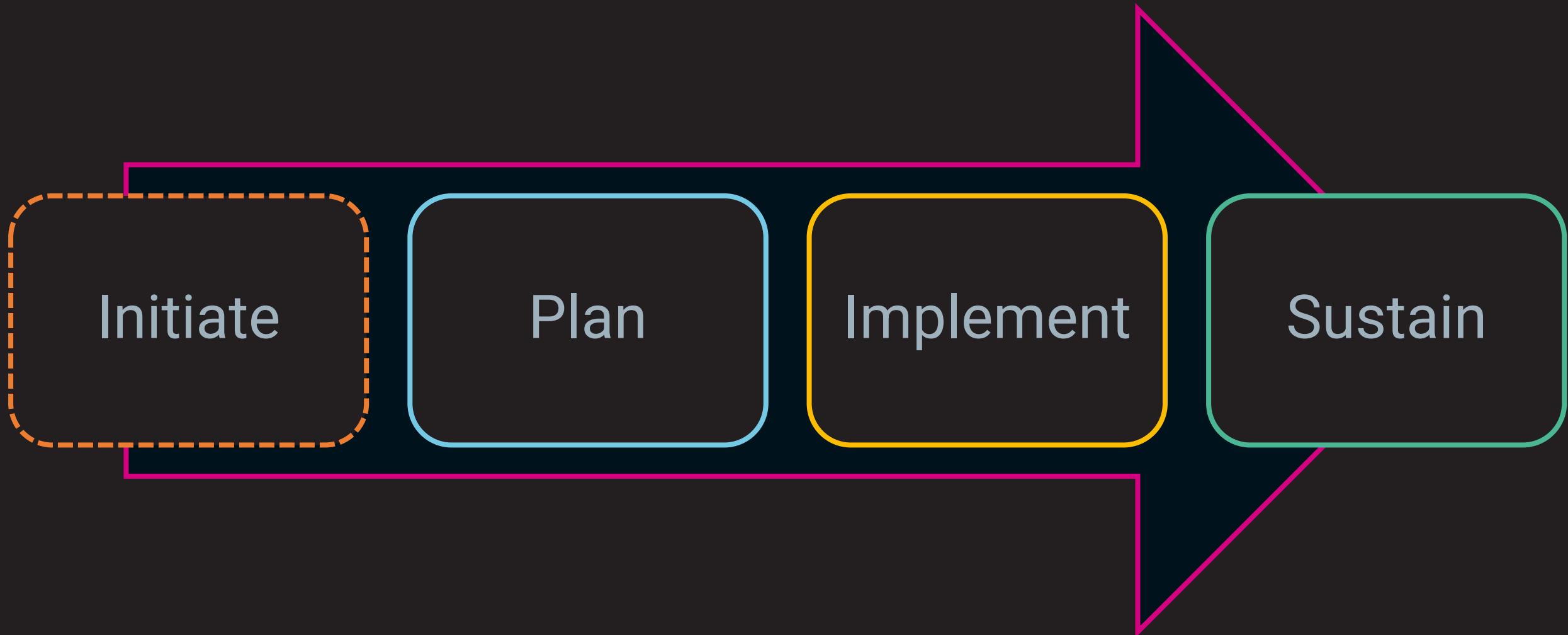
- Part of the Certified Professional in Accessibility Core Competencies (CPACC) curriculum.
- Updated and revised since first published in 2002.

Planning and Managing Web Accessibility

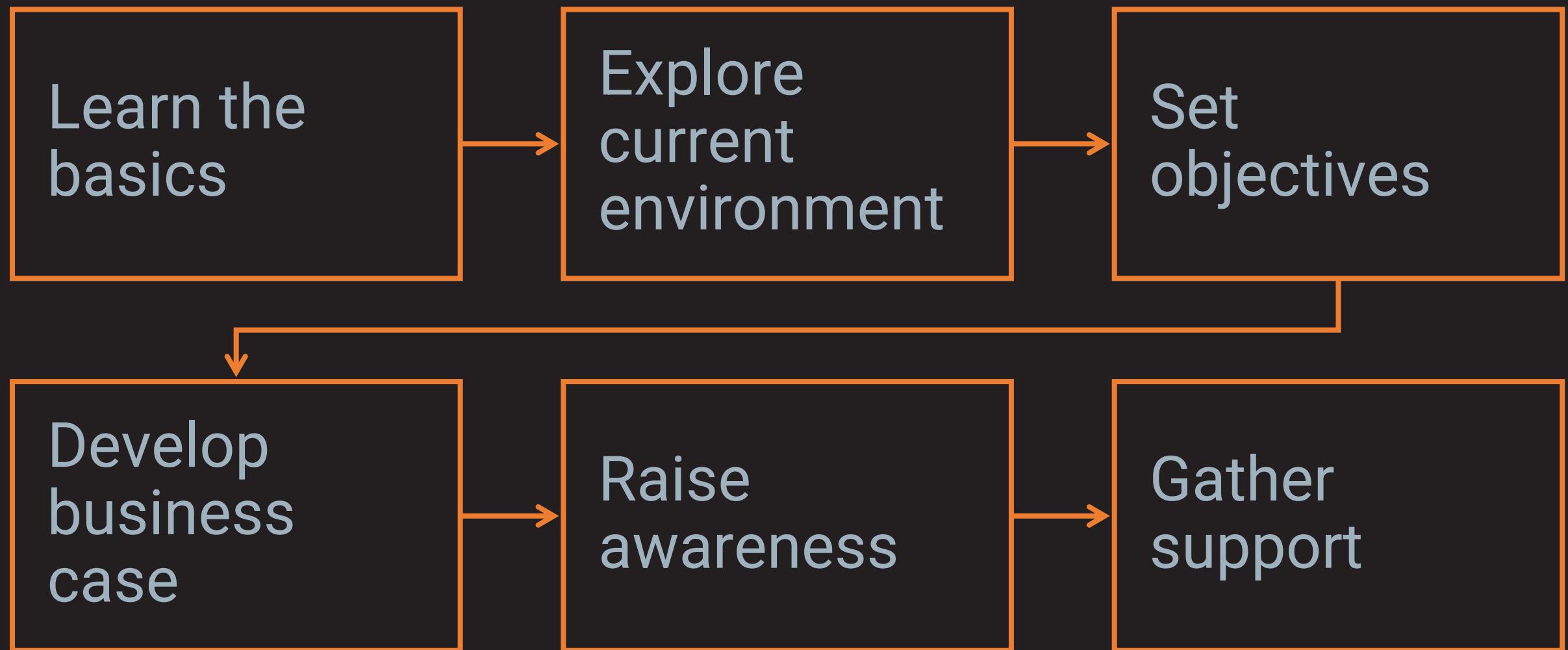
Sections of this presentation are based on “Planning and Managing Web Accessibility” from the Web Accessibility Initiative (WAI). Copyright © 2021 W3C® (MIT, ERCIM, Keio). Status: Updated 31 March 2016.

<https://www.w3.org/WAI/planning-and-managing/>

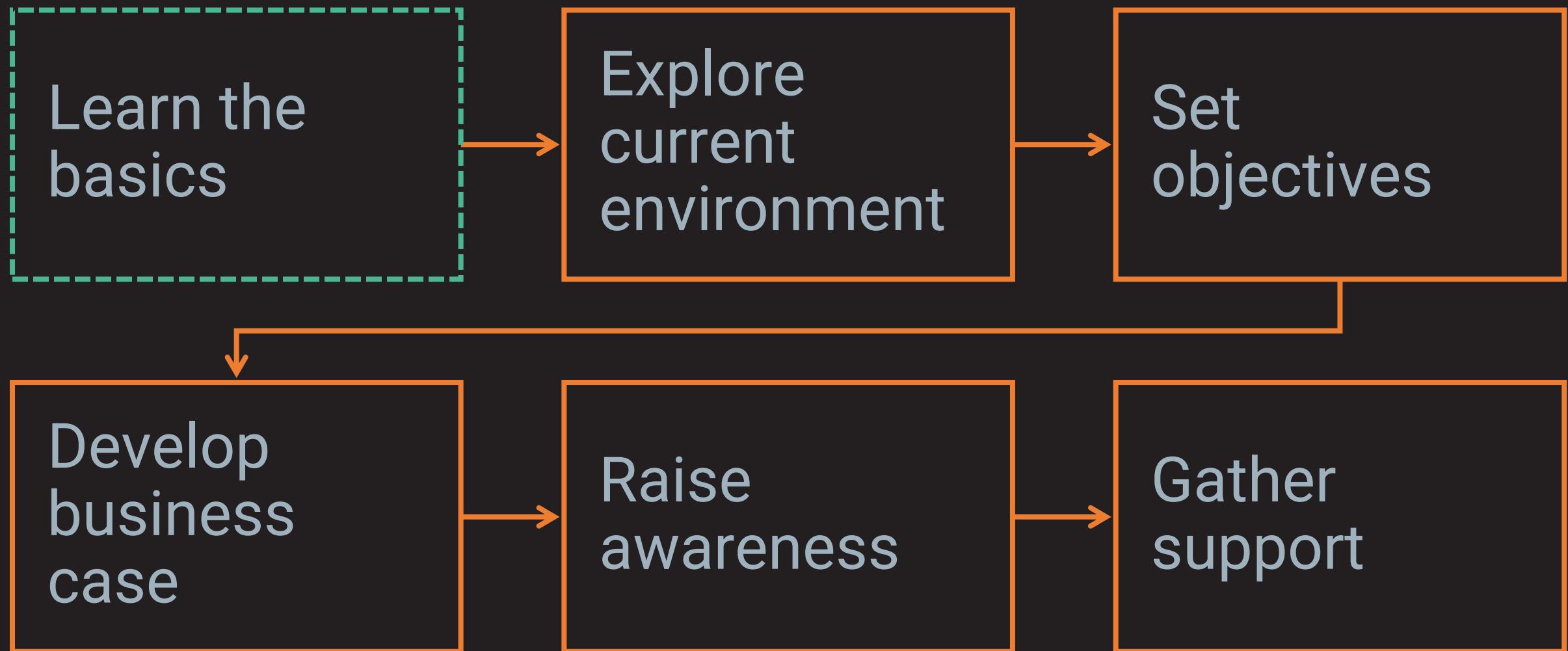
Planning and Managing Web Accessibility



Initiate



Learn the basics



Learn the basics

Deepen your understanding of accessibility, so that you can make a more articulate case of its benefits.



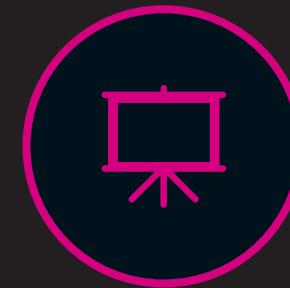
Research



Talk with colleagues with disabilities.



Training



Demonstrations

Resources for learning the basics

- Accessibility Fundamentals (W3C)
- Dos and don'ts on designing for accessibility (CDDO)
- Quick wins for web accessibility (a11y.coffee)
- Accessibility (MDN)
- Accessibility fundamentals (Microsoft)
- Giving a damn about accessibility (UX Collective)

Play the accessibility maze



Automated emails for learning the basics.

WCAG of the Day

Concurrent Input Mechanisms - 2.5.6

WCAG of the Day <grunet@dwcag.org>

To

Mon 11:02

If there are problems with how this message is displayed, click here to view it in a web browser.

2.5 - Input Modalities

Concurrent Input Mechanisms (Level AAA)

On accessible websites...

Web content does not restrict use of input modalities available on a platform except where the restriction is essential, required to ensure the security of the content, or required to respect user settings.

These websites...

Make it easier for users to operate functionality through various inputs beyond keyboard.

What's an example?

A user opens a menu with a mouse, and then navigates between the menu items with arrow keys.

I still don't really understand

Web Content Accessibility Guidelines 2.2, W3C World Wide Web Consortium Recommendation 21 May 2021 (<https://www.w3.org/TR/2021/WD-WCAG22-20210521/>, Latest version at <https://www.w3.org/TR/WCAG22/>)

10 Days of A11y

DAY 1: Is your contrast failing like 85% of the most popular sites?

hello@a11ywithlindsey.com

To ⚡ Matthew Deeprose

18/01/2020

If there are problems with how this message is displayed, click here to view it in a web browser.

Hey Matthew Deeprose!

Welcome to the first accessibility tip. Today's topic is all about Color Contrast.

According to [The WebAIM Million](#), an accessibility audit of the top 1 million sites, **97.8% of home pages had detectable WCAG2 failures!** Of those homepages, 85.3% of them failed on something as simple as color contrast.

If you fix your Contrast, you are already way more accessible than the top million sites.

What's the problem?

Poor color contrast means that some people may have a hard time distinguishing between your text and the background color. These people could include:

- People who are experiencing glare because they are looking at their phones outside in the sunlight
- Older sets of eyes
- Colorblind folks

We do not want to create additional eye strain for our users, so it is imperative to ensure proper contrast. To ensure adequate contrast, you should uphold your content to pass **WCAG AA guidelines**. The guidelines require a minimum contrast ratio of 3:1 for large text and 4.5:1 for

Mailing lists

ATHEN

Access Technology Higher Education Network

Access Technology Higher
Education Network Mailing
List



WebAim Mailing List



JISC Accessibility Mailing
List

JISC Accessibility
Community

Communities



[Web A11y Slack](#)

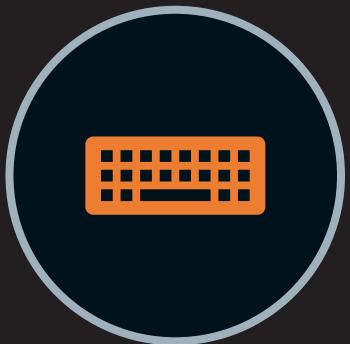


[JISC Accessibility
Community](#)

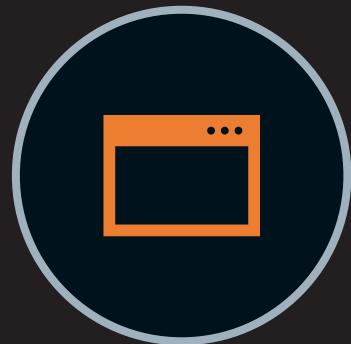


[Worldwide
Accessibility
Discord Server](#)

Test a few university sites



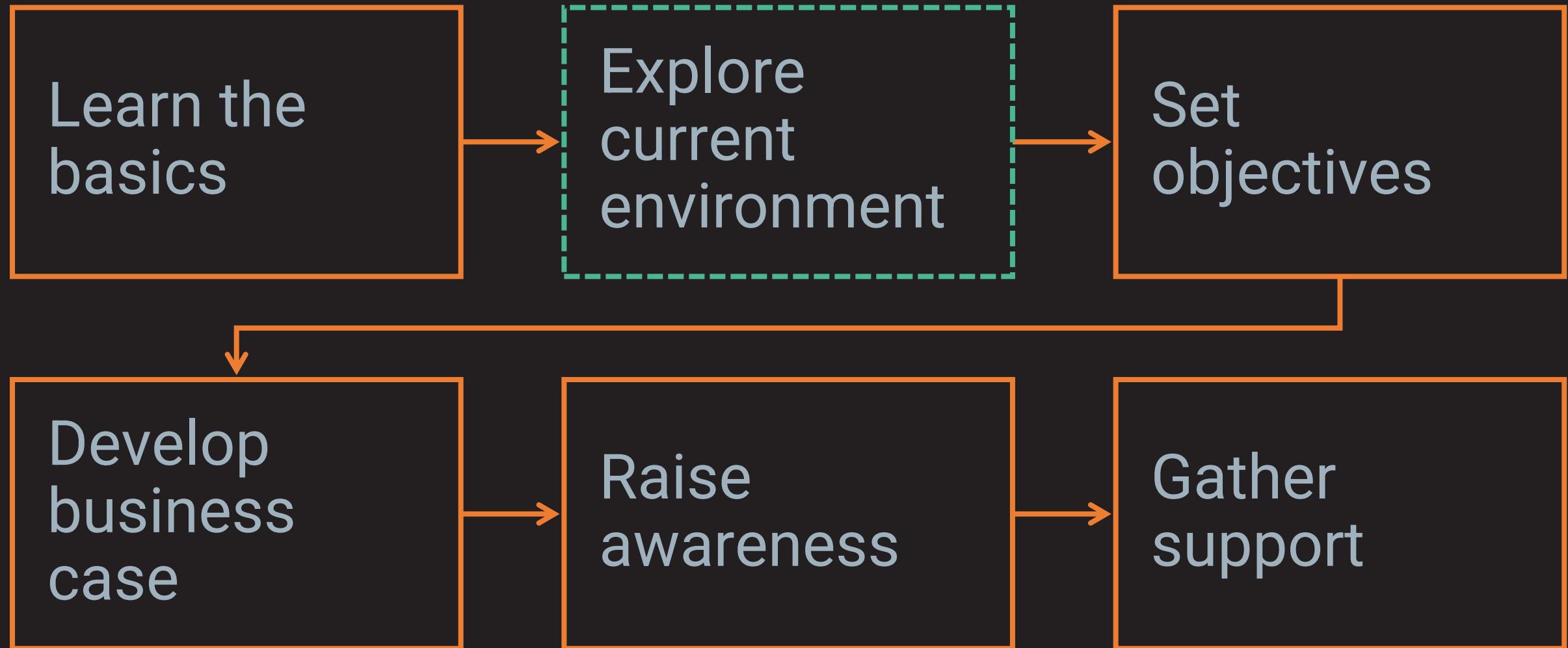
Keyboard
navigation



Accessibility
Insights

- Navigate corporate site using a keyboard?
- Automated accessibility defects found on high usage sites?

Explore current environment



Explore current environment

Learn your organisation's current state of accessibility and its obligations. This helps determine the scope of work ahead.



Key websites



Current processes



Attitude



Impact of PSBAR

Researching the environment



Review your institutions access and participation plan.



Ask how accessibility was considered when a recent new service was introduced.

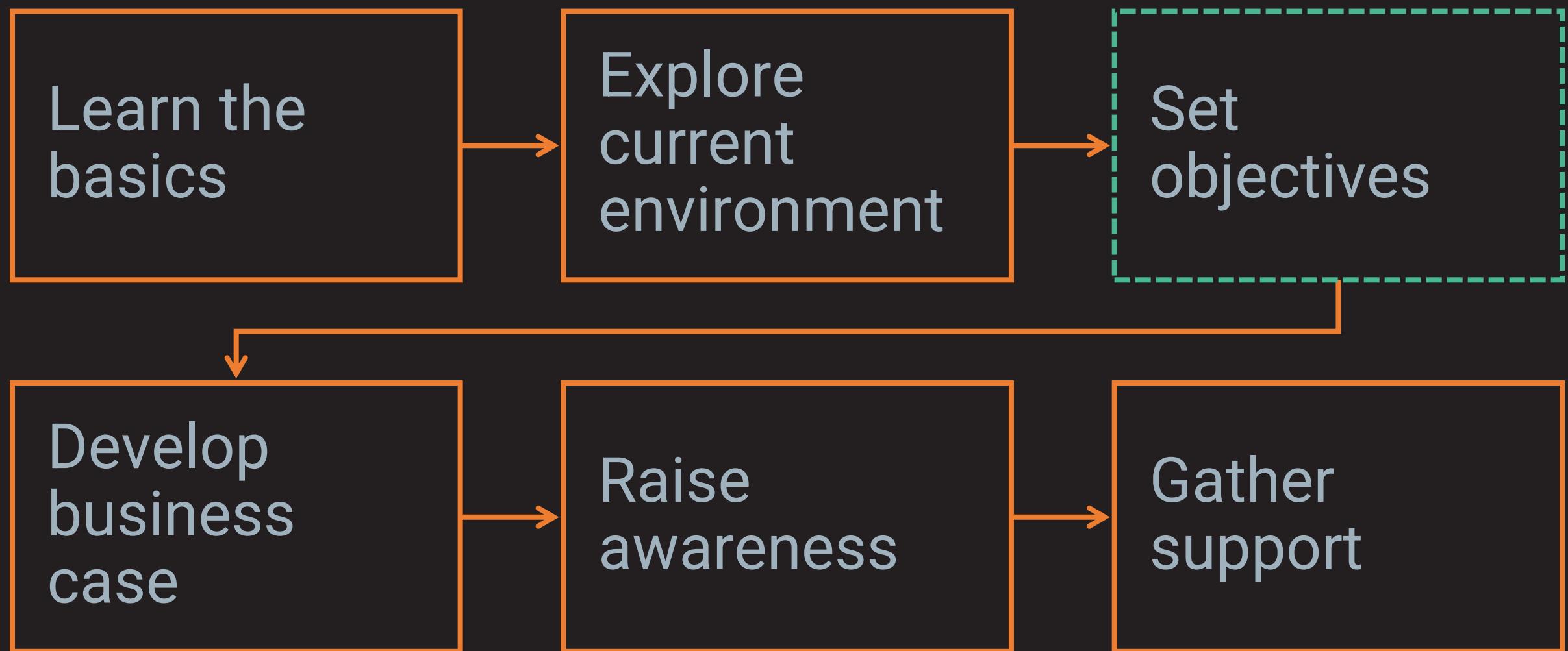


Ask IT support teams how they deal with accessibility issues raised by users.



Talk to colleagues in SD&I team, occupational health, student's union etc.

Set objectives



Set objectives

- Clear objectives identify key deliverables.
- Establish a timeline.
- Define how to measure success.



Example objectives

 Develop an accessibility policy over the next twelve months

 Include accessibility clauses within procurement guidelines / non-functional requirements by...

 Evaluate three most important web services for accessibility and address critical issues by...

 Initiate a digital accessibility training programme for all staff by...

 Adjust change management process to consider accessibility by...

Vision



The department understands the importance of accessibility.



Accessibility is built into our processes. We no longer think about accessibility as an extra, it's part of what we do.

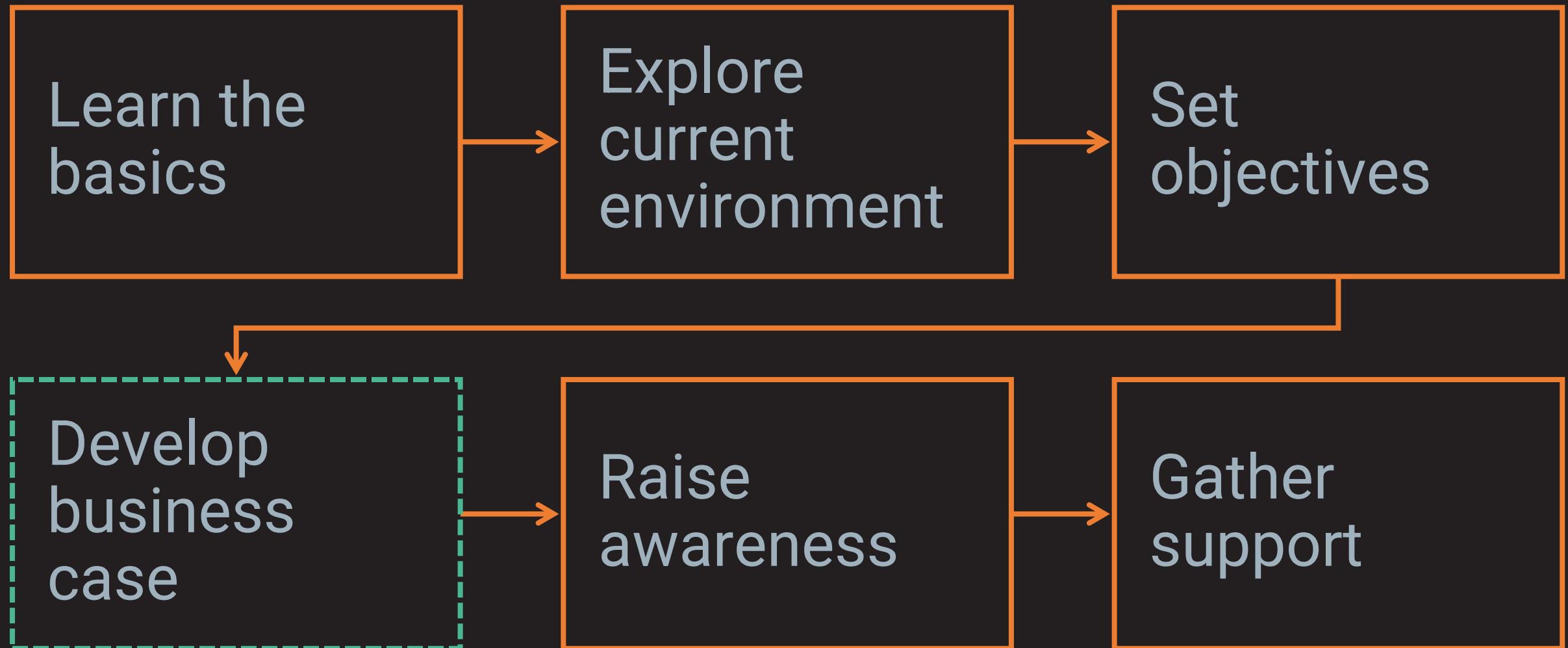


The organisation understands the benefits of accessible applications and expects it in the same way it expects secure applications.



The user-base understands how accessibility features help them to get more out of the digital estate, regardless of impairment or disability.

Develop business case



What do we mean by business case?



A stockpile of arguments and elevator pitches.



A project business case based on standard documentation.



A report or position paper.

The business case...



Gains buy-in from
stakeholders



Is tailored to the
organisation



Sets priorities



Aims to obtain
financial support

University IT departments vary



How many staff work in the department?



Prefer Commercial of the Shelf, or build your own?



Current strategies, trends, and direction



Stability of the organisation



Interest of senior leadership

The business case could explore



The context for staff and students with impairments



Benefits for all



Social responsibility / relation to existing strategies

The business case could explore



The legal context



Financial and technical benefits



Staff development benefits

The context for staff and students with impairments / Benefits for all

Maximise the potential of the University's digital estate for all stakeholders by removing barriers.

Statistics about student self-disclosure of disabilities or impairments.

Occupational health benefits?

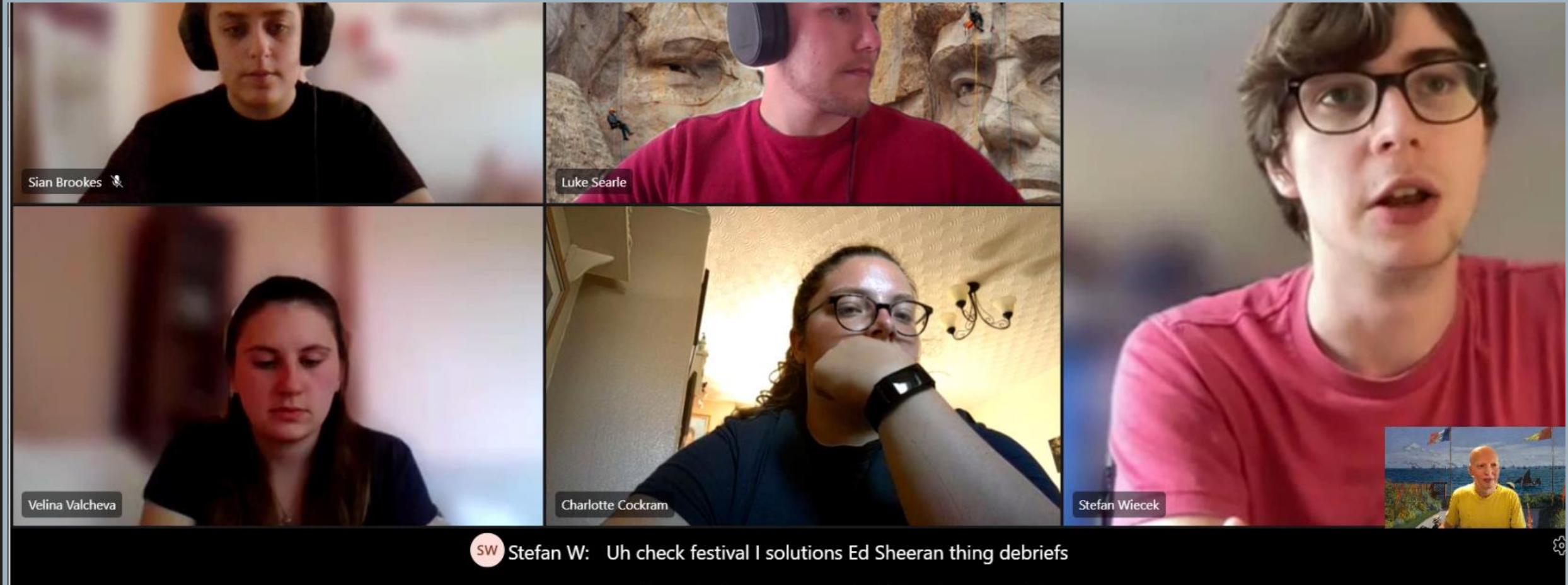
“Everyday accessibility”

“Everyday accessibility”

Experiences from past 18 months have brought the importance of accessibility features home to all.



Examples of everyday accessibility: Captions



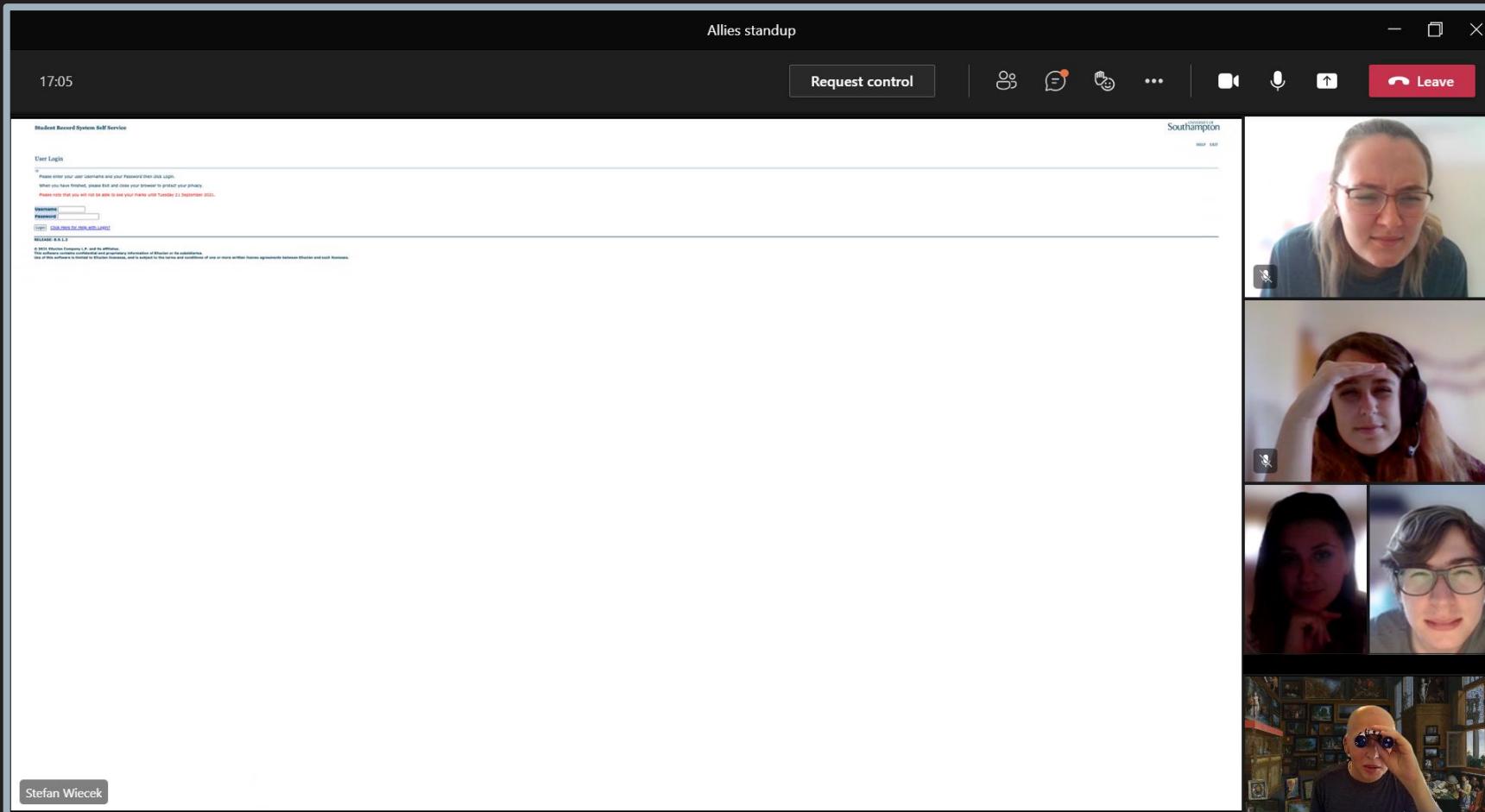
Examples of everyday accessibility: Captions



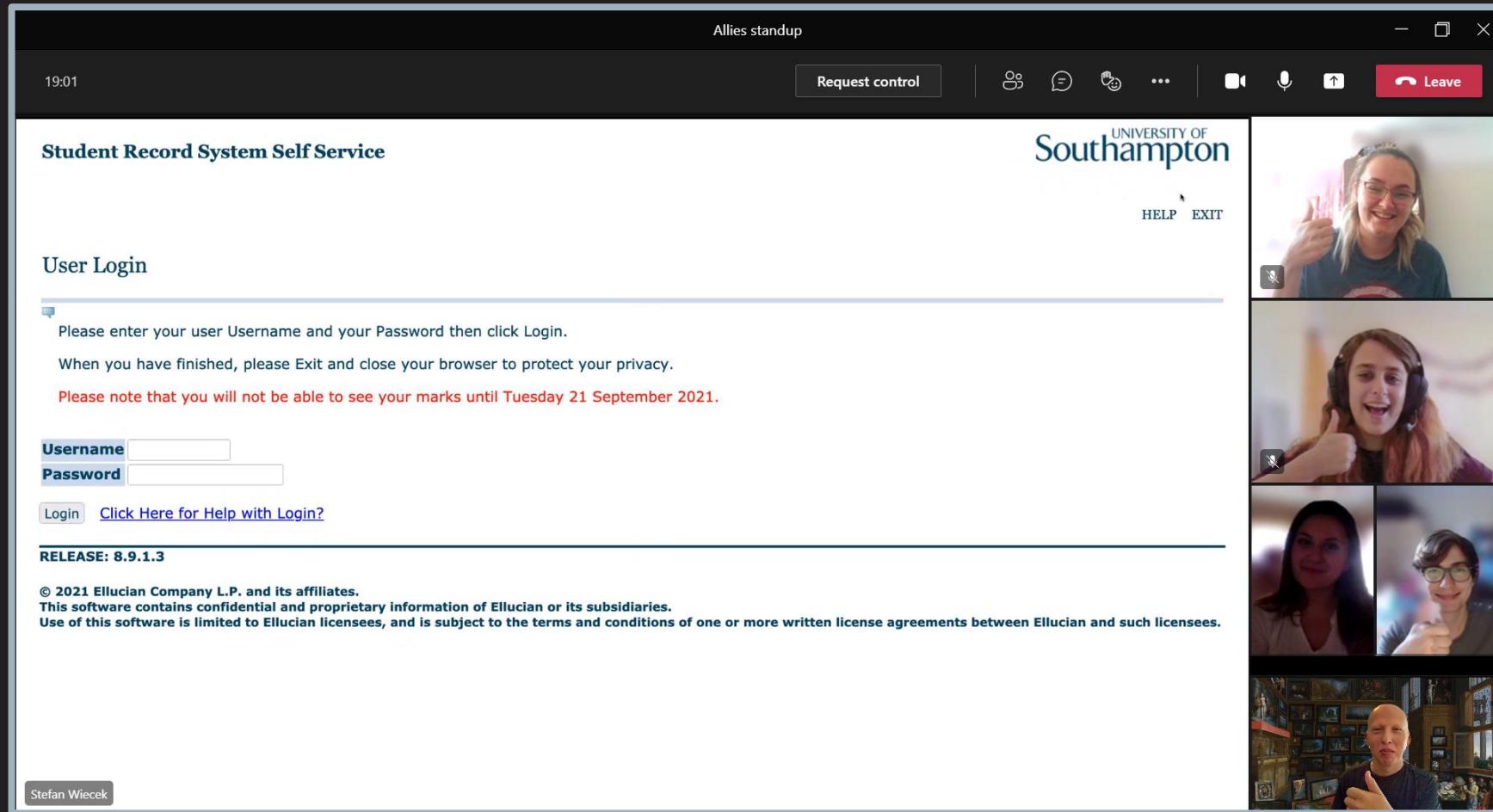
Stefan W: Uh check festival I solutions Ed Sheeran thing debriefs

number of others so I just asked Matt if we can do it

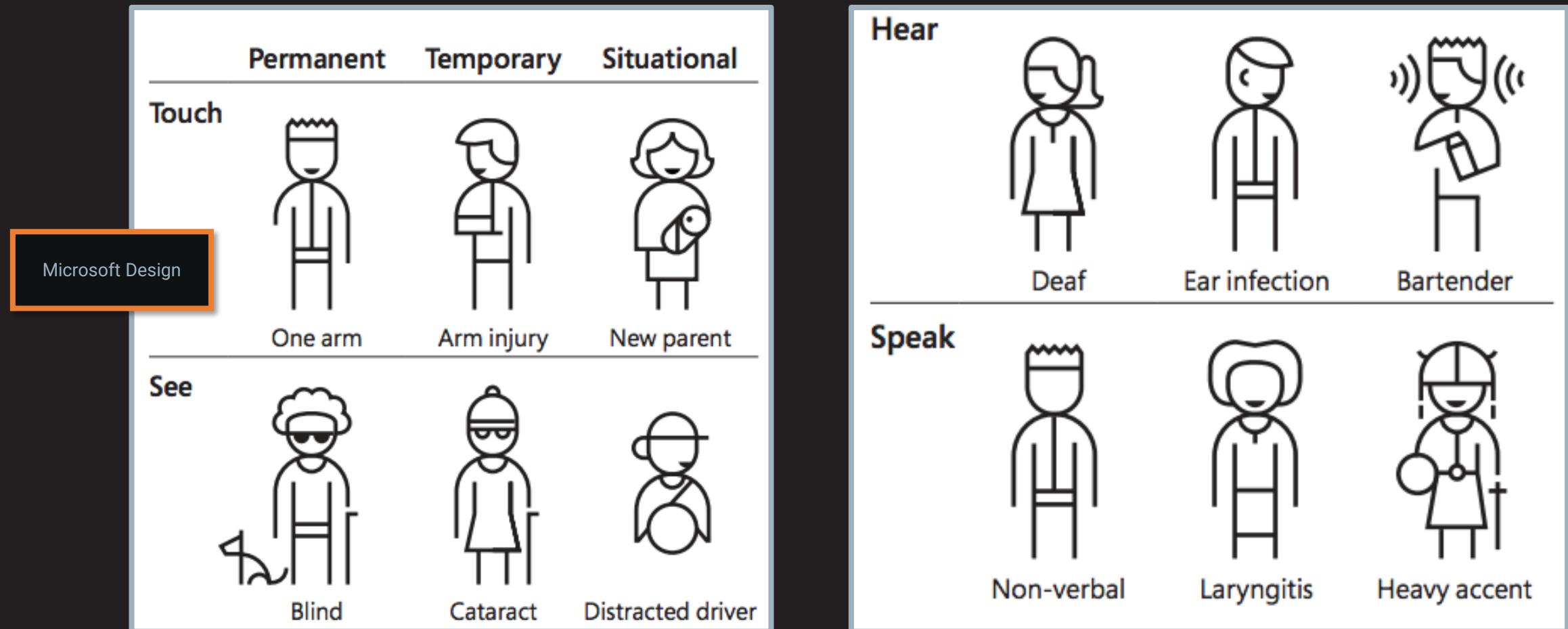
Examples of everyday accessibility: Browser zoom



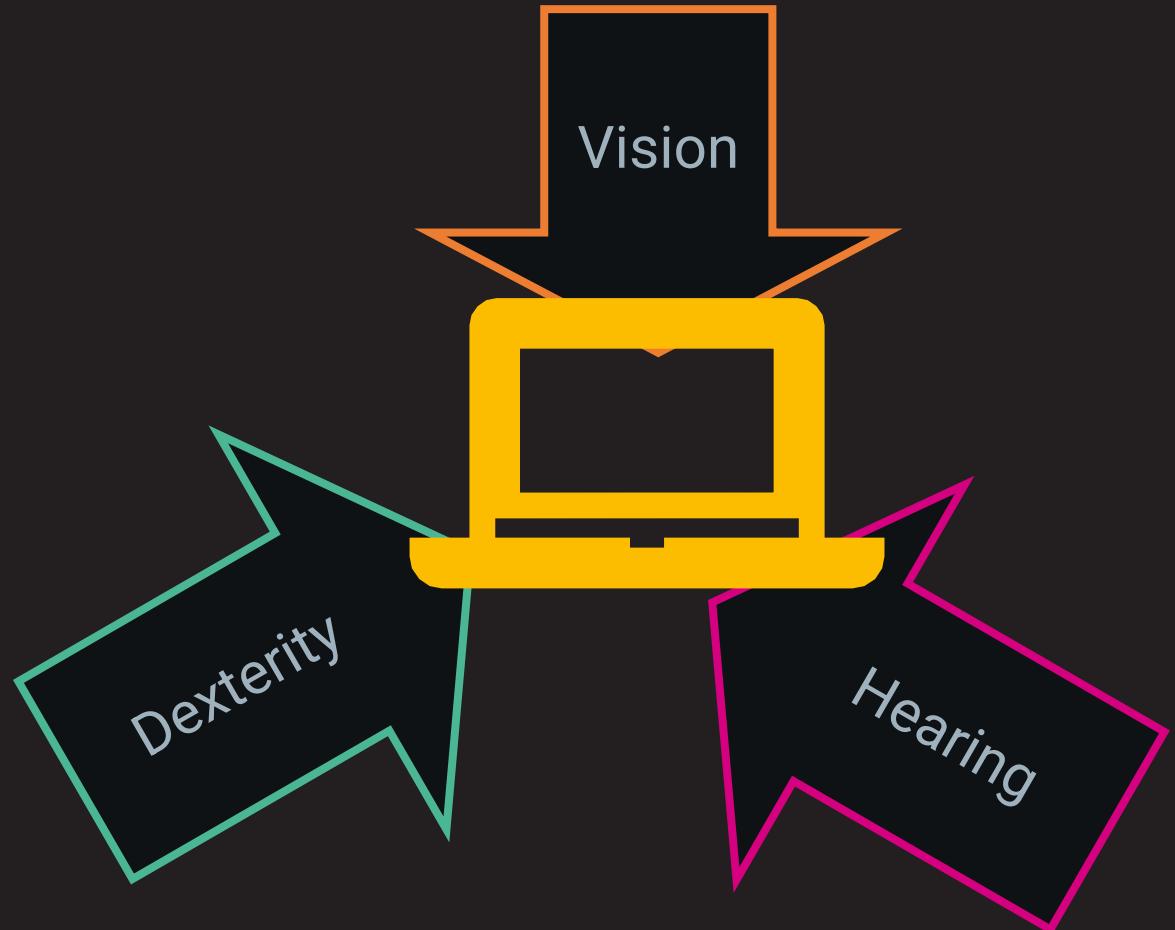
Examples of everyday accessibility: Browser zoom



Maximise the potential of the University's digital estate for all stakeholders.



Most common Occupational Health Issues



Accessibility features that can assist and empower:

- Browser zoom
- Change OS font size
- Dictation (speech to text) features
- Keyboard usage
- Reader mode
- Text to speech (read aloud mode)

Examples of everyday accessibility at OS level

Display

Make your display easier to see.

Make text bigger

Sample text

Drag the slider until the sample text is easy to read, then click Apply



Apply

Make everything bigger

Change the size of apps and text on the main display

100% (Recommended)

125%

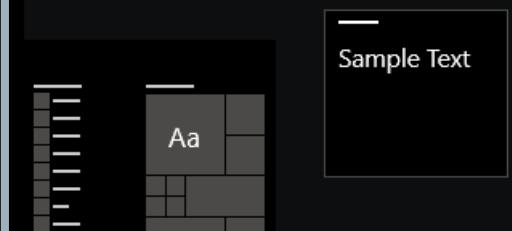
150%

175%

other displays

cursor and mouse

Colors



Choose your color



Transparency effects



Choose your accent color

Automatically pick an accent color from my background

← Settings

High contrast

Make text and apps easier to see by using more distinct colors.

Use high contrast

Turn on high contrast



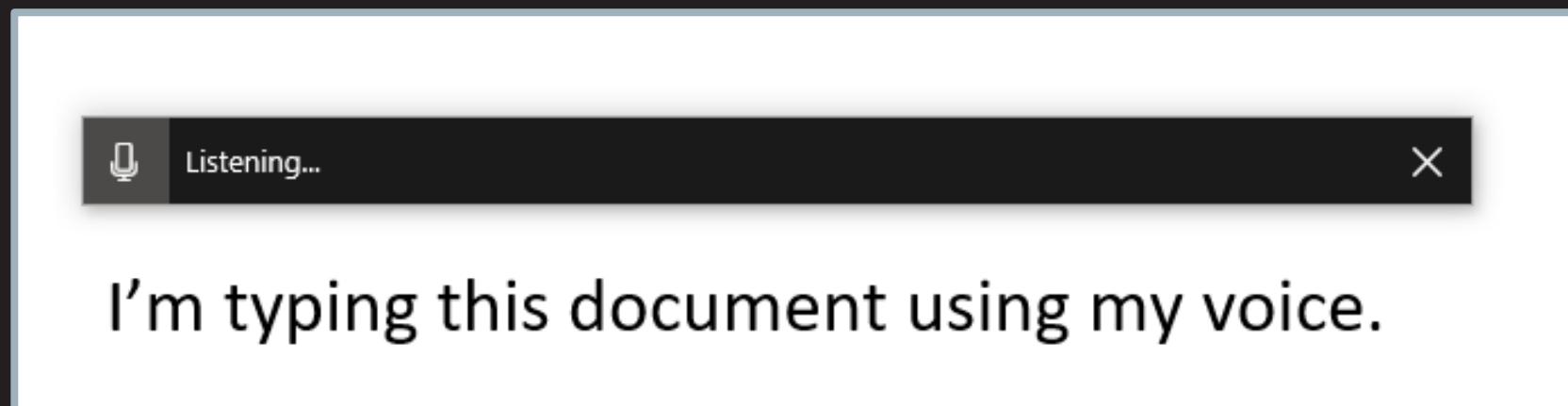
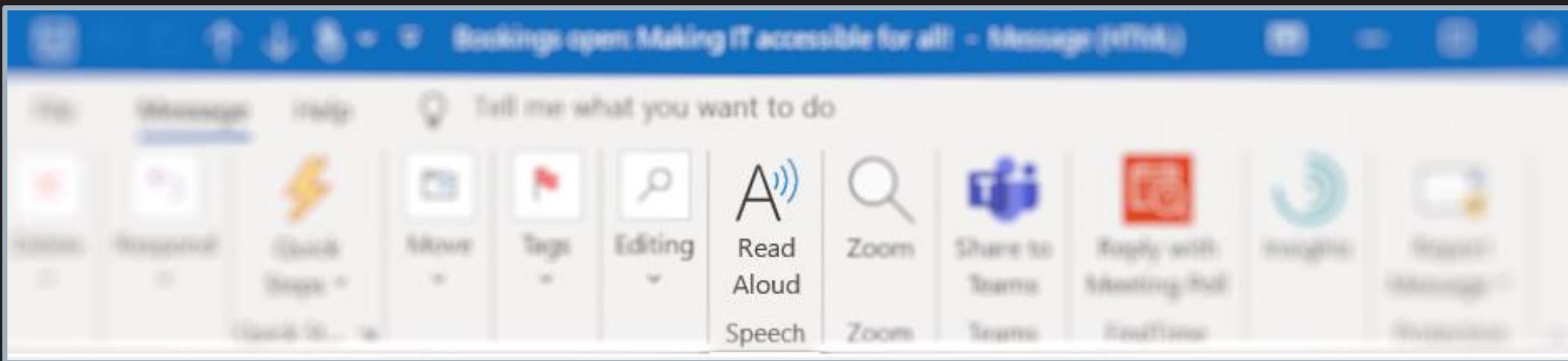
On

Press left Alt + left Shift + Print Screen to turn high contrast on and off.

Choose a theme



More examples of everyday accessibility



Homeworking During the Pandemic Proving a Pain in the Neck

Published 3 December 2020

In April 2020, the Office of National Statistics reported that 46.6% of people in employment did some work at home, 86% of whom did so as a result of the Covid-19 pandemic. As a significant proportion of us continue to work from home, how do employers protect their homeworkers from developing a Muscular Skeletal Disorder?

What are MSDs?

Musculoskeletal disorders (MSD) is an umbrella term covering a variety of disorders including cumulative back conditions, tendonitis, tennis elbow/epicondylitis, trigger finger/thumb and carpal tunnel syndrome.

HUFFPOST

This Is What Happens To Your Body When You Work From Home

Your makeshift WFH setup can lead to pain and long-term health problems that will stay with you after the coronavirus pandemic.

By Monica Torres
02/04/2020 10:45am BST | Updated April 3, 2020

 **Pythagoras**

Embedding accessibility in your working from home set up

We have all faced some new challenges in the past few weeks whilst settling into our new way of working from home, and for many, remote working is only expected to increase in future. It is more important than ever to prioritise accessibility and embed it into your virtual online set up to ensure a happy and inclusive workforce.

Provide your organisation with the tools, resources and Best Practice advice to ensure that working from home is

<https://go.soton.ac.uk/ucisa>

 **REFINERY29** United Kingdom 

Is Working From Home Ruining My Vision?

I have always felt undeservedly smug about my vision. For distances, I need glasses, but up close? Crystal clear. One particular point of pride was my ability to work in Google Docs with the screen zoomed out to 75%. Whenever I caught sight of someone working at 150%, I'd chuckle to myself, *An inferior physical specimen*. And yet! After a year of working from home, spending more time than ever before staring at screens — small screens at that — I've had to zoom in. I'm currently

Access and Participation Data



Trend of disability disclosures



Continuation rate comparison.



What are the stated plans?

Aims of our Access and Participation strategy

- ✓ Reduce non-continuation rates of students with disability.
- ✓ Close gap in attainment for students who disclose disability.
- ✓ Close gap in progression for students who disclose a disability.

IT Services that meet accessibility guidelines will help the University toward this goal.



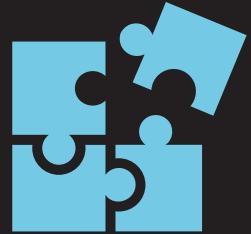
Social responsibility / relation to existing strategies



It's the right thing to do.



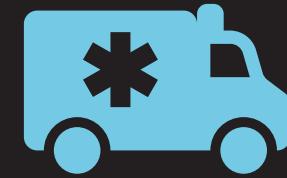
It's the right thing to do



Accessibility features in products and services often solve unanticipated problems. *



40% of households have at least 1 disabled person. **



We all will benefit from Assistive Technologies at some point in our lives. ***

* <https://www.w3.org/WAI/business-case/>

** <https://www.scope.org.uk/media/disability-facts-figures/>

*** <https://www.who.int/news-room/fact-sheets/detail/assistive-technology>

It's the right thing to do



woo woo woo

@McgarrDana

...

Accessibility isn't more work, you
were just cutting corners before.
The work was incomplete.

9:44 pm · 29 Apr 2021 · Twitter for iPhone

It saves money.

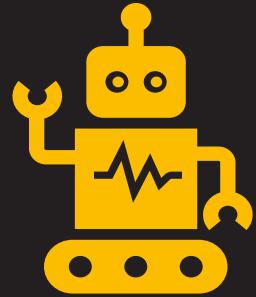


It saves money

* <https://www.mightybytes.com/blog/digital-accessibility-series-part-one/>
** <https://www.w3.org/WAI/fundamentals/accessibility-principles/#robust>
*** UoS Access and Participation Plan



Following accessible practices reduces page size and load time.*



Accessible mark up requires less maintenance to make compatible with future devices.**



Standardising with accessible user interface patterns and components means not reinventing the wheel.



Students who disclose a disability are less likely to continue their programme of study***

Staff development benefits



Expertise in digital accessibility will be required by companies who do business around the world.



Expertise in digital accessibility will be required by companies who do business around the world.

Country	Name
Australia	 World Wide Web Access: Disability Discrimination Act
Brazil	 e-MAG, Modelo de Acessibilidade de Governo Eletrônico
Canada	 Standard on Web Accessibility
Israel	 Israeli standard 5568
Italy	 Stanca Act
Japan	 Japanese Industrial Standards X 8341-3
Norway	 Forskrift om universell utforming av informasjons- og kommunikasjonsteknologiske (IKT)-løsninger

https://en.wikipedia.org/wiki/Web_accessibility#Web_accessibility_legislation

<https://www.lflegal.com/2013/05/gaad-legal/>



Directive (EU) 2019/882

European Accessibility Act

Covers products and services that have been identified as being most important for persons with disabilities while being most likely to have diverging accessibility requirements across EU countries.

- Computers and operating systems
- ATMs, ticketing and check-in machines
- Smartphones
- TV equipment related to digital television services
- Telephony services and related equipment
- Access to audio-visual media services such as television broadcast and related consumer equipment
- Services related to air, bus, rail and waterborne passenger transport
- Banking services
- e-books
- e-commerce

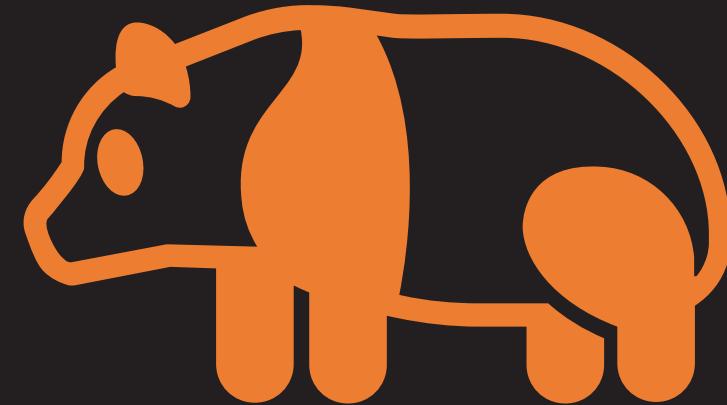
An edge in the job market?

Less than 3% of University tech programmes include accessibility.*

63% of tech companies cannot staff accessibility needs. **

93% say demand for accessibility skills will increase in the future **

The number of job listings with “accessibility” in the title increased by 78% in the year ended in July from the last 12 months. ***



* [Teach Access Institutions course list \(coded\), 2018](#)

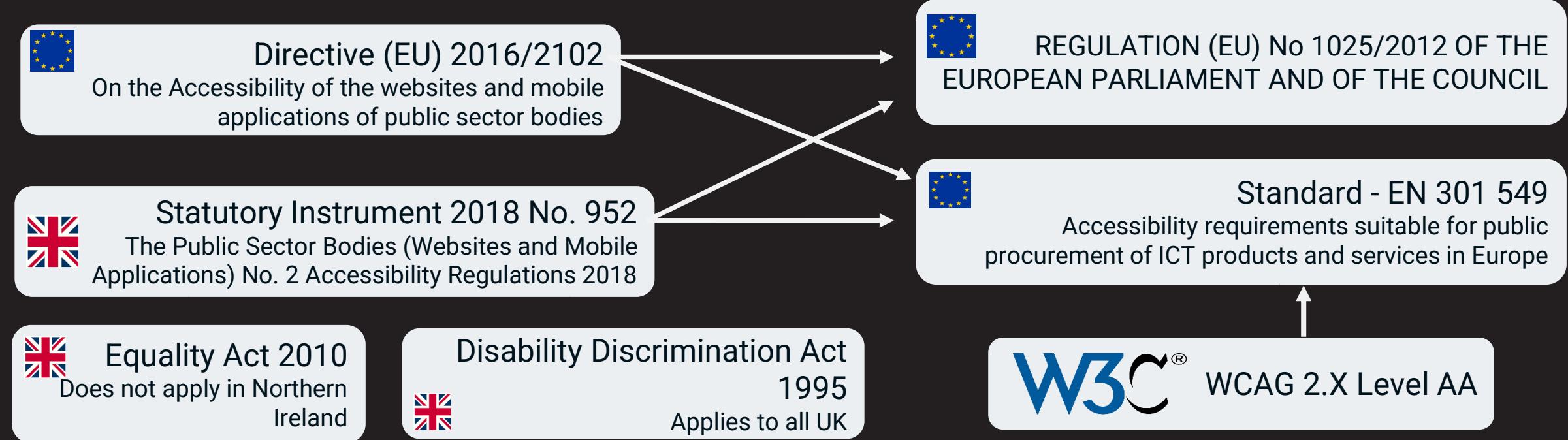
** [Accessible Technology Skills Gap Report, PEAT, 2018.](#)

*** [Wall Street Journal, 2021](#)

The legal context



It's the law.



The “failure to make a reasonable adjustment” definition in the 2018 SI refers to the detail already determined in the above two acts.

Public Sector Bodies (Websites and Mobile Applications) (No. 2) Accessibility Regulations 2018 (PSBAR)



PSBAR

The regulations set **testable standards** for web sites, documents, and mobile apps to meet in order to **prove their accessibility**



PSBAR

The regulations set **testable standards** for web sites, documents, and mobile apps to meet in order to prove **their accessibility**, and a way for organisations to **report on their compliance**.



PSBAR

The regulations set **testable standards** for web sites, documents, and mobile apps to meet in order to prove **their accessibility**, and a way for organisations to **report on their compliance**.



23 September
2019

23 September
2020

23 June 2021

✓ Websites published
on or after 23
September 2018.



✓ Office file formats*



✓ Extranets and
intranets**



✓ Websites published
before 22
September 2018.



✓ Mobile apps.



*Office file formats published from 23 September 2018, and any published before 23rd September 2018 which are needed for active administrative processes relating to the tasks performed by the public sector body.

**Content of extranets and intranets published on or after 23rd September 2019, and any content published before 23rd September 2019 that has been substantially revised.

What's the worst that can happen?



What's the worst that can happen?

EHRC investigation following report and monitoring by
CDDO

Discrimination claim by injured party

Reputational damage

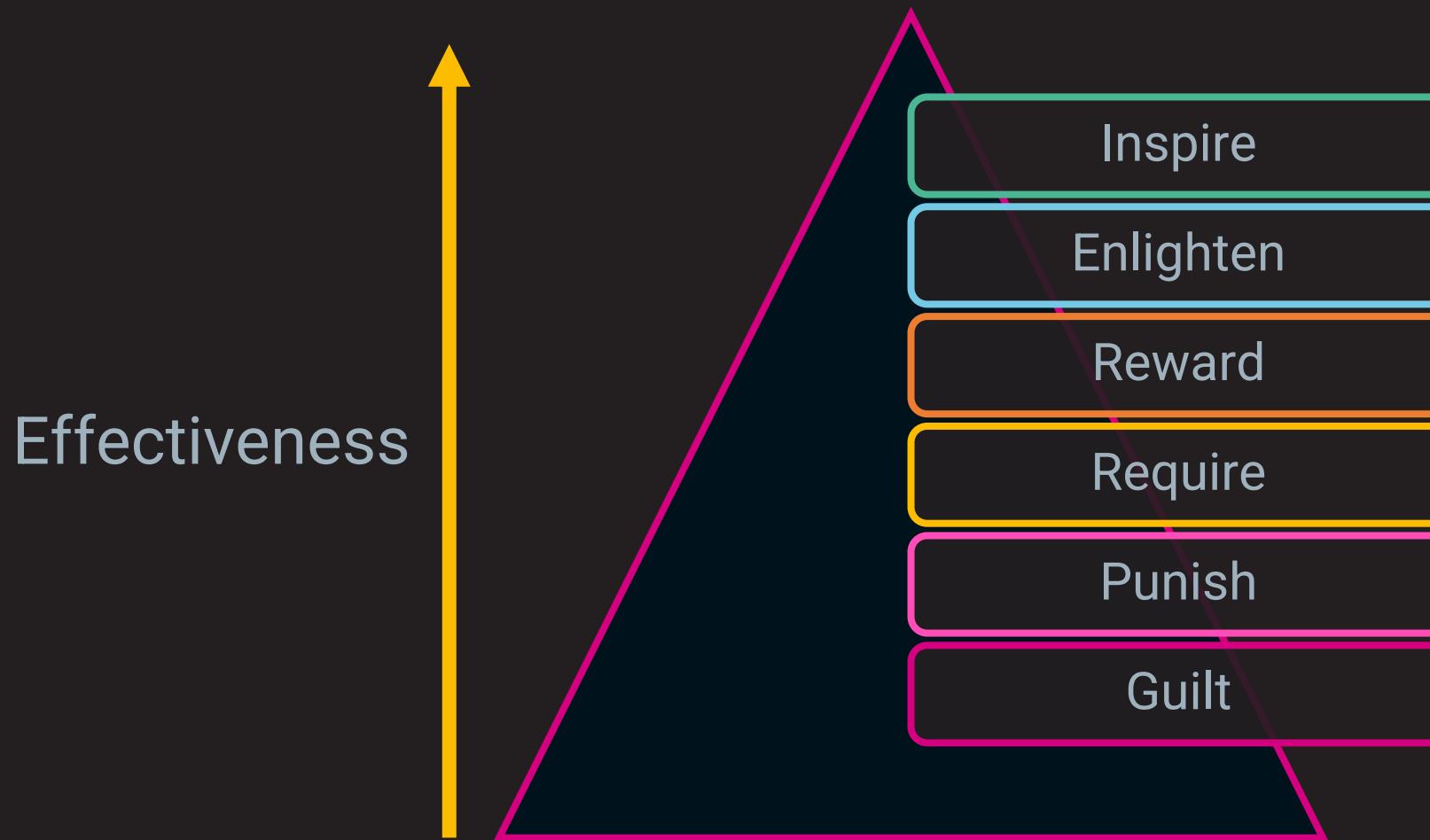
Disadvantage of legalistic approach



“When organisations work on accessibility only because they are afraid of being sued... they inevitably stop at compliance because that is the point where litigation risk ends.”

Lainey Feingold, LFLegal.com

WebAIM Hierarchy for motivating Accessibility Change



Making the financial case is hard



Improved continuation rate?



Reduction in sick days?



Reduction in support requests?



More effective use of digital estate?



Improved effectiveness of occupational health support?

The business case should

Outline

Outline the risks associated with ignoring accessibility.

Provide

Provide some indication of the resources needed.

Confirm

Confirm how improvements will be tracked.

Specify

Specify anticipated return on investment.

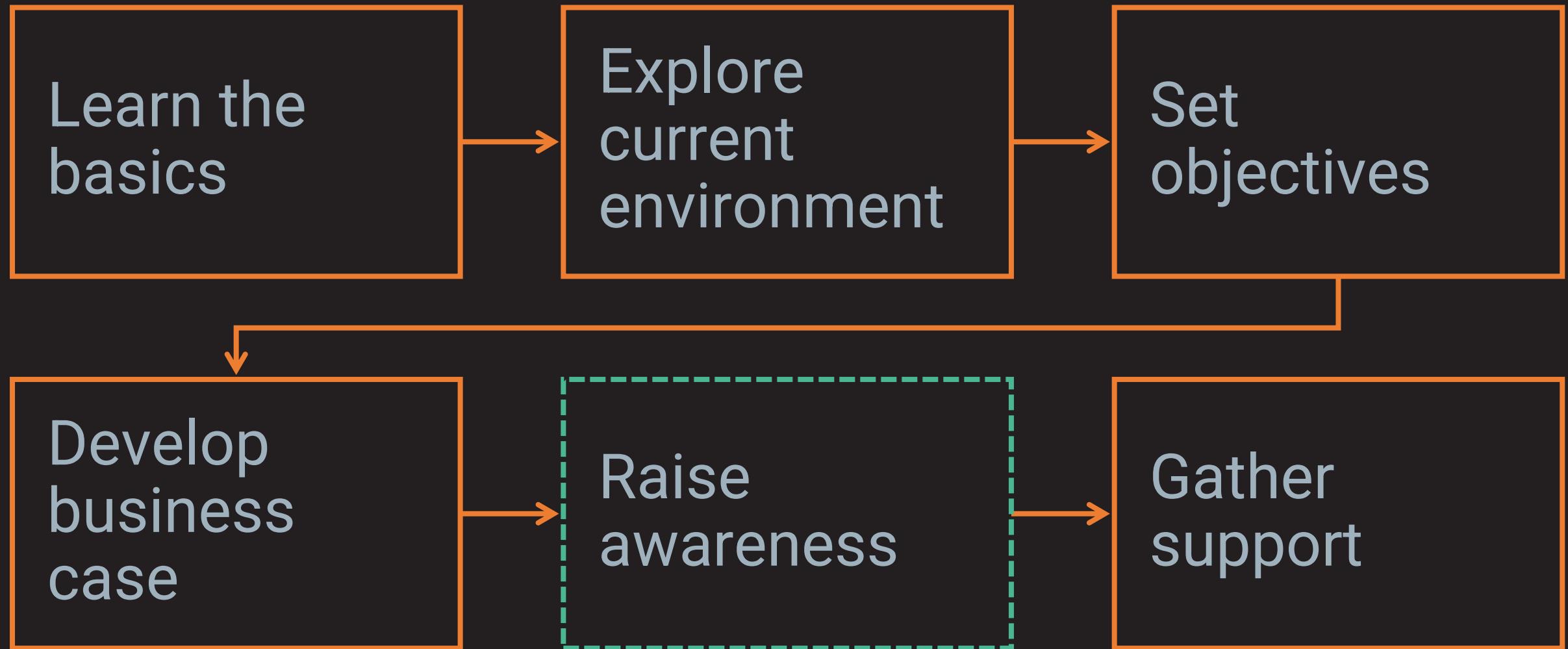
Further resources

The Business Case for Digital Accessibility



<https://www.w3.org/WAI/business-case/>

Raise awareness



Raise awareness, and communicate:



The goals

Lack of awareness is a frequent reason for lack of accessibility adoption.



The value-adds

What extra benefits are there?



And the importance of accessibility

Generate enthusiasm. Consider inviting external speakers, as well as staff and students from outside your department.

Introductory course for all staff and students

An Introduction to Digital Accessibility

Using this course

1. Start
2. Visual impairment
3. Hearing impairment
4. Mental illness
5. Cognitive difference
6. Motor impairment
7. Summary

Knowledge check

Scores and achievements

Further resources



Visual Impairment

Visual Impairment

Description

Temporary and situational impairment

Assistive Technology

Persona - Adi

What can I do?

Visual Impairment - Links & Resources

Glossary

Persona - Adi

0:00 / 1:32

Key points:

- Blind - uses screen reader.
- Studying Business.
- Useful to get things in advance to prepare.
- Frustrated by documents without heading structure & non-descriptive links.
- Data not presented in a table and unlabelled graphs have little use.
- Struggles with focus after about 20 mins due to fatigue from listening.
- Frustrated when someone points at things without describing them



« Previous

Next »

Document accessibility

Check your documents for accessibility problems

Provide structure

- Use headings - the correct use of headings allows a document to be navigated easily. Screen reading software can bring up a list of the headings it finds in a document and allows a screen reader user to 'jump' to these navigation points.
- Check the reading order on slides (you can do this using the Accessibility Checker)
- Check your document can be navigated using a keyboard (place your mouse out of reach).
- Check your content using a screen reader such as the in-built Windows Narrator or VoiceOver on a Mac. To find out about the accessibility settings you can use AbilityNet's free resource [My Computer My Way](#)

QUESTION 8

Who is responsible for checking for accessibility?

- a. Disability Support staff.
- b. Everyone.
- c. Senior Leadership teams.
- d. Web teams.

Digital Accessibility Community of Practice

73 members

10 events in 2021

Preference for interactive peer-tutorials

Usual attendance for events: 7 to 20 staff

Primarily for IT department but some 'fellow travellers' have joined

Example topics

Introduction
to WCAG
principles

Keyboard
navigation

Alternative
Text

Talking
about
disability

Heading
Styles

Meaningful
links

- Effective tutorials take significant time and research to prepare.
- Where possible resources such as lesson plans, presentations, videos have been made available to the wider community.

Challenges of building a community



Staff are not given time.



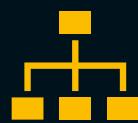
Make part of objectives.



Lack of engagement and support from leadership.



Include info about CoPs in induction for new starters.



Lack of engagement from technical roles.



Promote benefits of taking part in community within departmental newsletters and staff meetings.

Connecting with others

Student Disability & Wellbeing

Part of Student Services



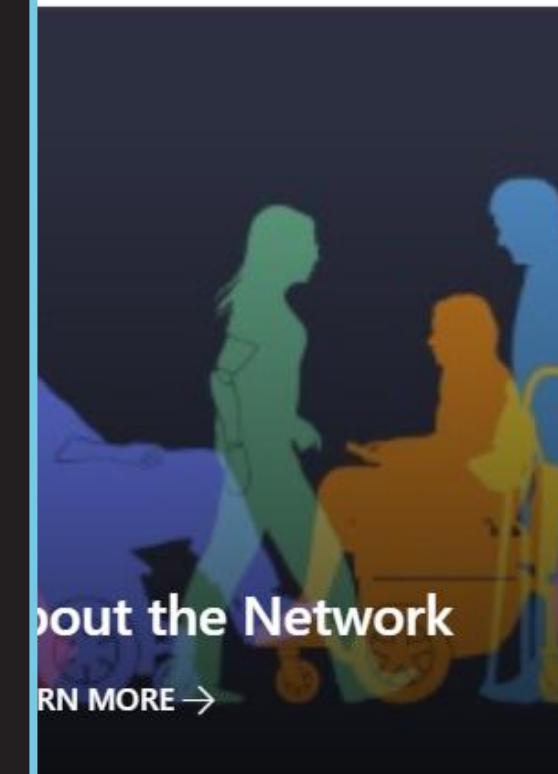
Supporting students with disabilities, mental health conditions or specific learning difficulties

UD

UoS Disability Staff Network

★ Following

UOS_Internal_Only

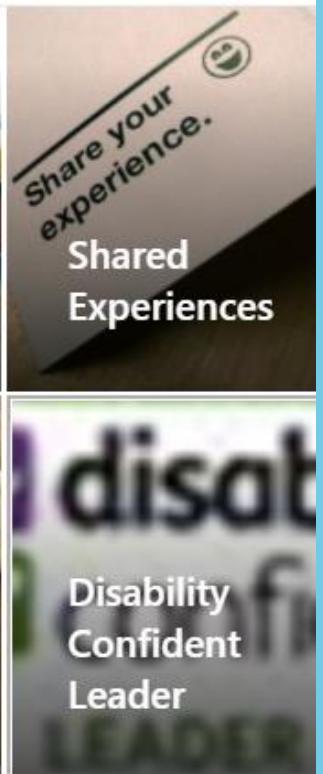


About the Network

LEARN MORE →



Meet the Committee



Disability
Confident
Leader

Connecting with others



ECS Accessibility Team



We research and create innovative accessibility solutions

The ECS Accessibility Team is a multi-disciplinary group based at the University of Southampton, in the School of Electronics and Computer Science.

We aim to understand, improve and promote technology accessibility. Our team blends accessibility and disability expertise with technical skills.

Through our research, collaboration, planning and development, we create solutions that help enrich people's lives

Teaching Accessibility

How is digital accessibility taught and learned?

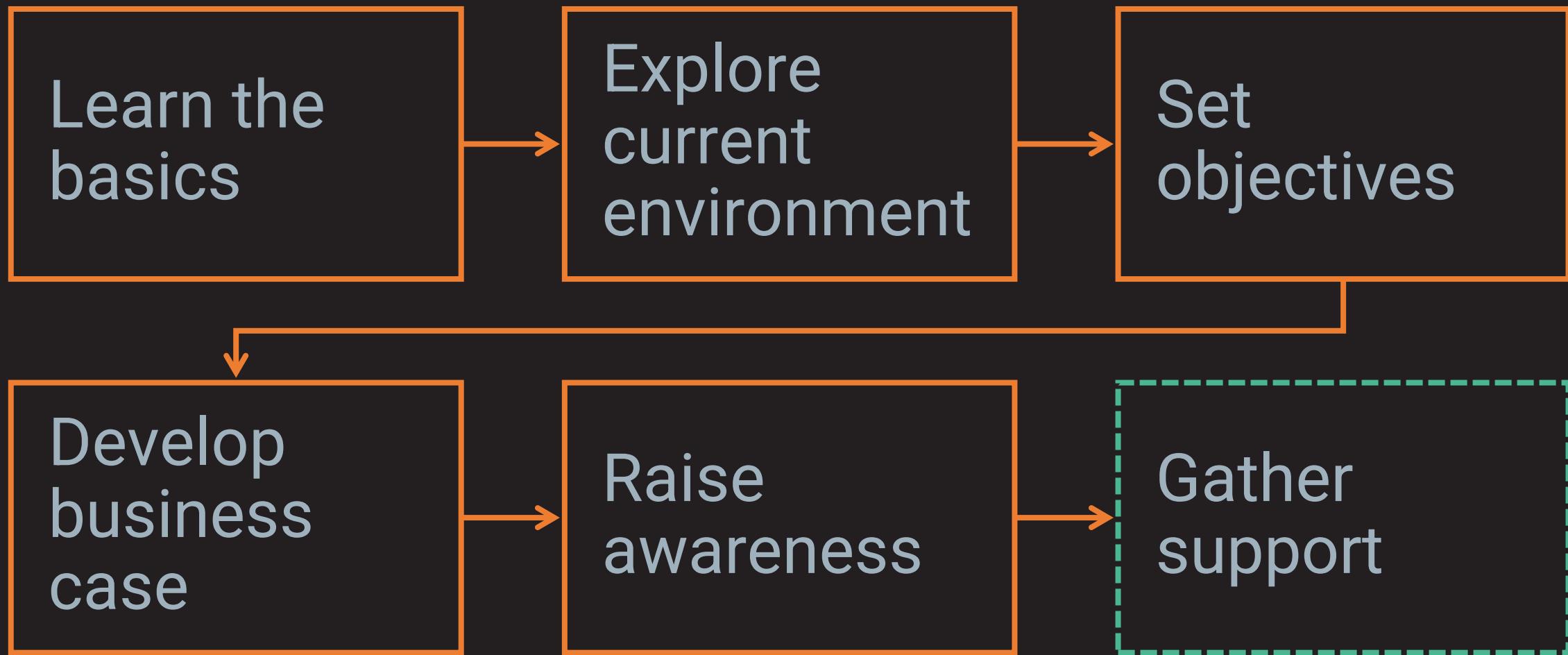


Welcome

Digital technologies have transformed daily life. Yet capacity for producing accessible digital tools and services has not kept pace with demand, exacerbating digital exclusion for disabled people and older people.

To address this, 'Teaching Accessibility in the Digital Skill Set' is a 5 year research study (2019-2024) funded by [UK Research and Innovation](#) that seeks to build understanding of accessibility pedagogy, so that teachers of accessibility,

Gather support



Gathering support

Department-wide support is vital to ensure IT accessibility is distributed across the department and sustained.

Organisation-wide support is even more important for an institution-wide adoption of digital accessibility.

Identify stakeholders

Key stakeholder and management support will...

...help with prioritisation clashes, access to resources, and communication activities.

...simplify the process of introducing or improving accessibility.

Use the business case to help secure support from these groups.

Foster support for accessibility



Find potential allies in:

- Web teams
- Comms teams
- EdTech teams
- Project teams

and so on...

Create opportunities for knowledge exchange



Discussions between individuals



Chat channels



Informal lunchtime meet-ups,
communities of practice

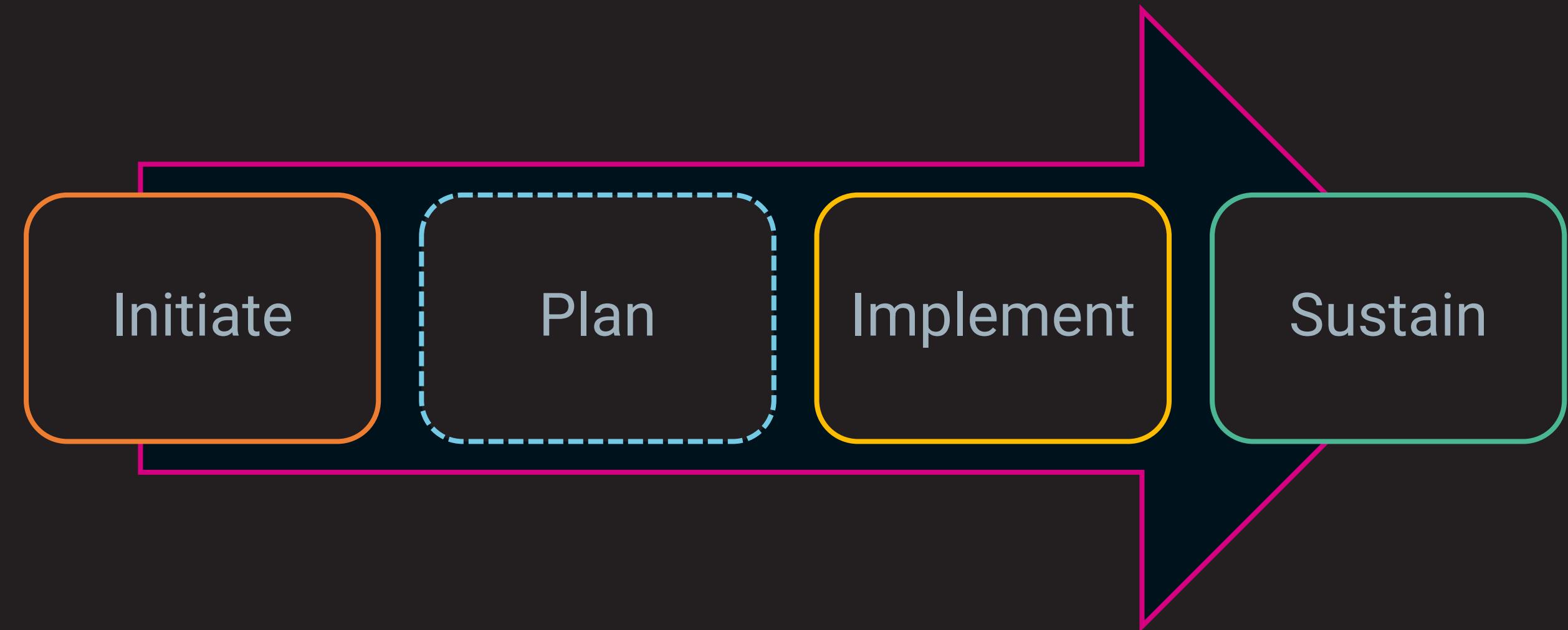


Departmental presentations, team
meetings

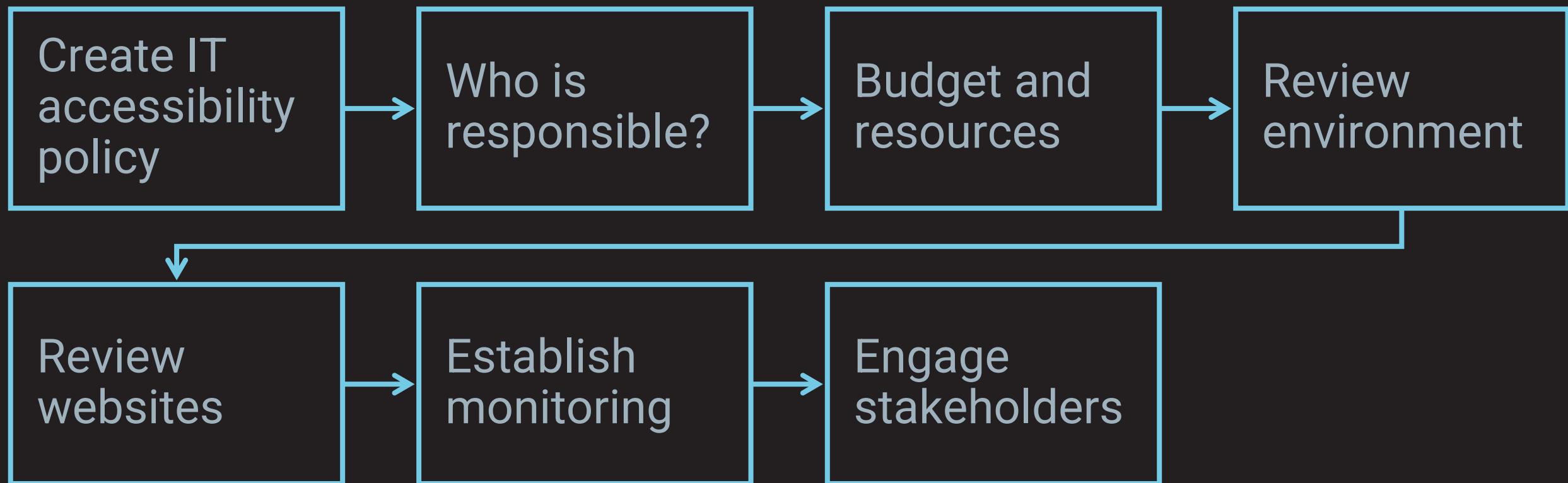


We've shared our
workshop materials
from Community of
Practice sessions.

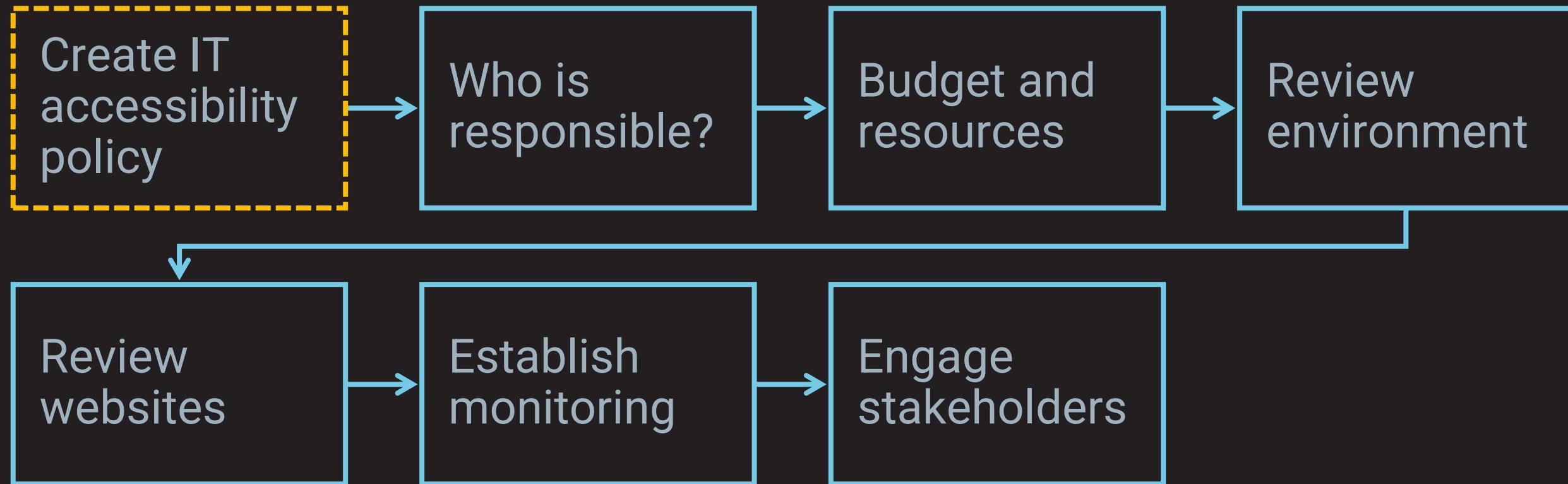
Planning and Managing Web Accessibility



Plan



Create IT accessibility policy



Create IT accessibility policy



Captures your goals and targets



Meet what standard and level?



Roles and responsibilities



Processes and scope



Reporting

Evolution of a Digital Accessibility Policy at UCL



Scope

1. **Digital products/services/platforms** – whether developed in-house or bought in
2. **Online content** – on websites, intranets, wiki, blogs, social media
3. **Digital documentation** – that are shared with others
4. **Multimedia** – audio, video and images
5. **Teaching and training content** – resources, presentations and multimedia

Style

- Simple language with links to more guidance

An example:

Documents which are prepared for institutional use such as meeting and committee papers, reports, guides, manuals etc. **must be** prepared using the guidance on structuring and formatting documents.

➤ Creating Accessible Documents guidance.

Staff **should** use the Microsoft Office accessibility checker to check the accessibility of Word, Excel and PowerPoint files and take action to address any problems.

The policy requires

- Compliance with WCAG 2.1AA
- Evidence of product compliance from supplier
- Evidence of supplier commitment – exception reports if this isn't possible
- Agreement with suppliers how accessibility requests will be handled
- Testing of products
- Accessibility statements for products & services

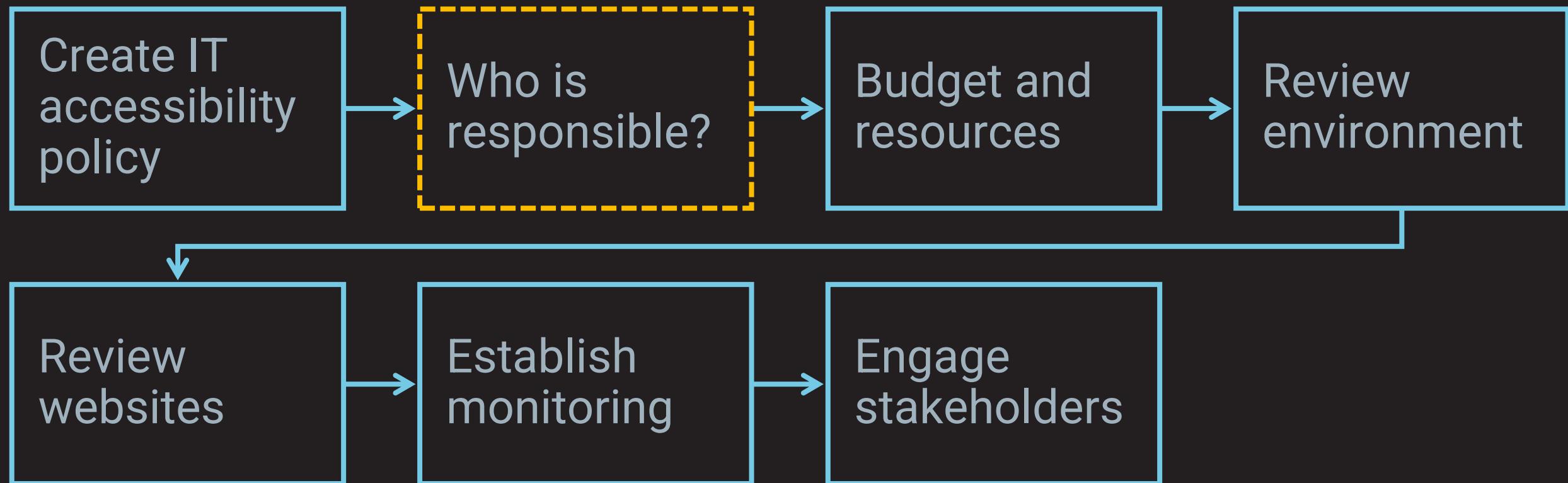


[This Photo
CC BY](#)

It's a
balancing
act...



Who is responsible?



Assign responsibilities



Formalising the responsibility helps ensure that staff have time for the work and can receive training.



Clear identification helps communicate who is responsible for accessibility and that it is being prioritised.

Department-wide



Communications

Embed accessibility within brand or design guidelines.



Quality assurance

Test for and track accessibility issues during development and release process.



Coding

Maintain libraries with accessible components.



Procurement

Include accessibility within procurement process



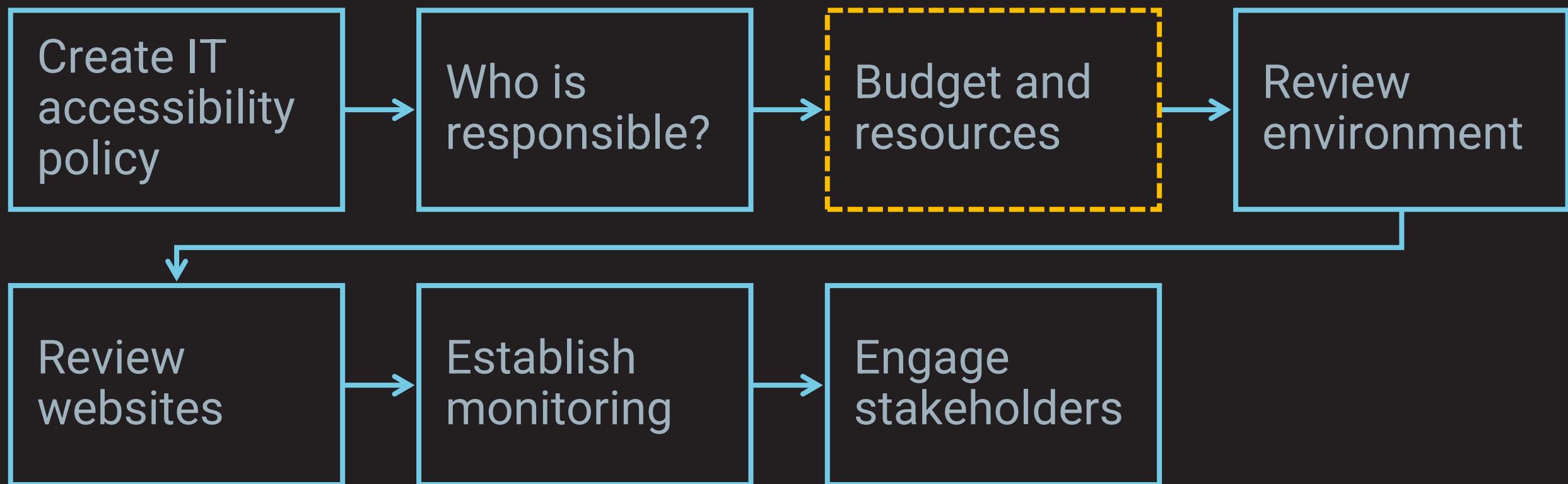
Recruit

Incorporate accessibility skills within job description and person specification.

Roles and responsibilities

Type of digital asset	Responsible	Accountable
General content	Individual staff	
Procured products, services, platforms	Project managers	Budget holder
In-house products, services, platforms	Project managers	CIO

Budget and resources



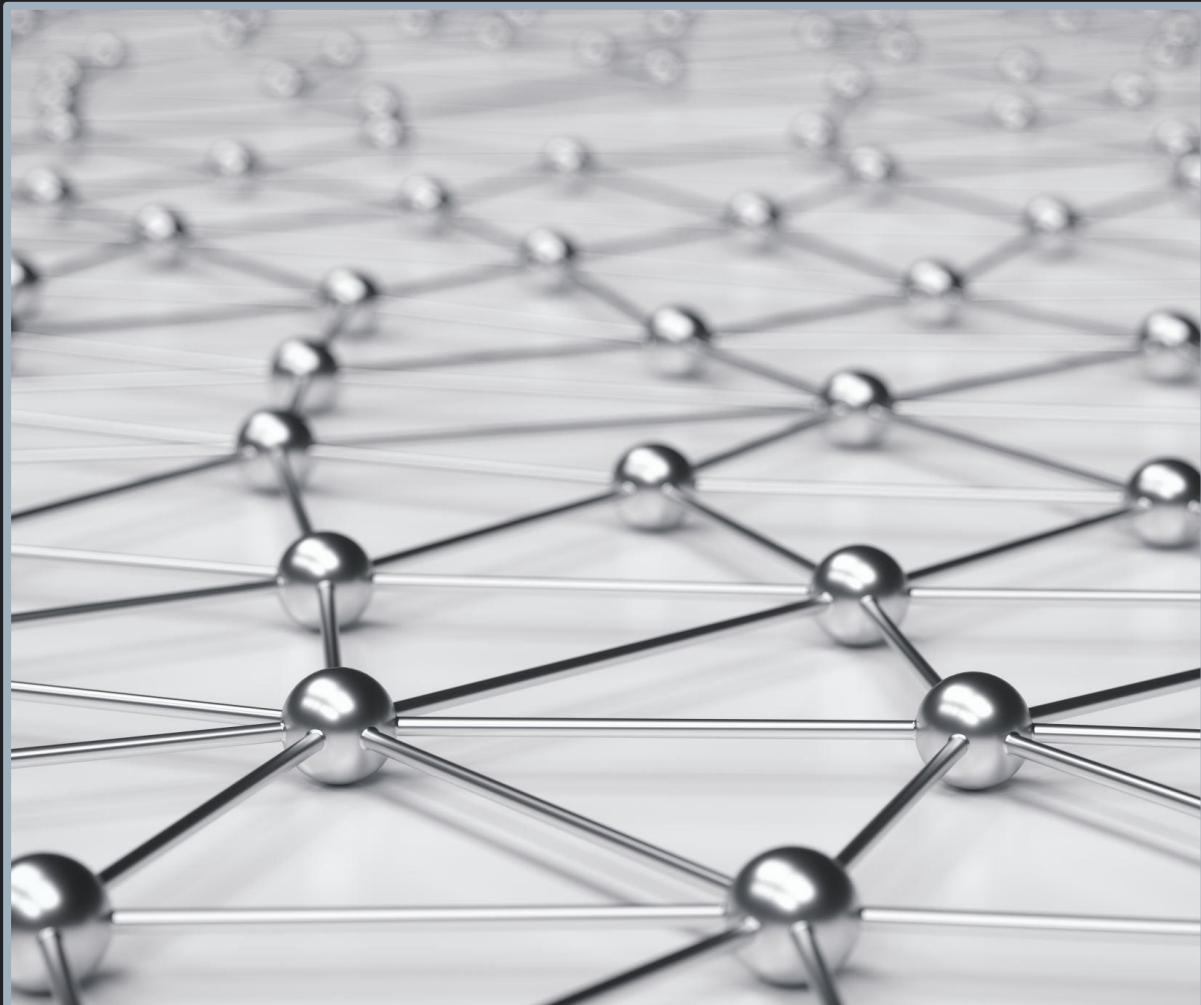
Budget and resources

Ensure resources, including budgets, are clarified and secured for accessibility activities.

This includes necessary reviews, training, audits, and testing with users.



Budget and resources



Will depend on

- your accessibility goals
- the extent of the work required to achieve them.

For all activities consider what resources will be required and ensure that they are available.

What to consider



Accessibility evaluations

How frequent? How extensive?



Involving people

Opportunities to involve users with disabilities in evaluations?



Reviewing policies and procedures

It takes time to identify which processes should change and to agree how to change them.

What to consider



Recruitment

Update job descriptions? Recruit specialists?



Staff training

General awareness raising, and specialist training where required?



Tooling

Content authoring tools, development environments, adjust CI/CD workflows?

Later in this presentation



Your business case helps to secure budget

Ensure that the final budget is supported by estimates of

- how changes impact on previously set objectives and targets,
- what return on investment could be expected.
 - better website performance,
 - reduction in maintenance costs,
 - improved corporate social responsibility.



Cost-Benefit Model for Accessibility Projects

The screenshot shows a dark blue header with the Access2online logo and the tagline "Online Accessibility on a Budget". Below the header, the page title is "Resources - Initiative: Cost-Benefit Model for Accessibility Projects". A sub-headline states: "A free spreadsheet built to model and analyze the costs vs. benefits of a website accessibility project". The "Background" section discusses the lack of a specific cost-benefit model for website accessibility projects. It notes that while there are nationwide models, this initiative provides a data-driven model for a specific project. The "Quantitative Benefits" table lists various financial savings and their details.

Line Item	Description	Qty	\$ per Qty	Total	Confidence Factor
15	Increased Sales	1	\$ 50,000.00	\$ 50,000.00	75%
16	Decreased cost for tech support hours spent addressing needs of accessibility challenged user	200	\$ 30.00	\$ 6,000.00	50%
17	Avoid cost of paying the trainer to teach your customer service personnel	40	\$ 75.00	\$ 3,000.00	75%
18	Decreased cost training customer service to handle accessibility needs.	20	\$ 30.00	\$ 2,400.00	30%
19	Avoid internal cost of litigation because of non-compliance - Depositions		\$ 0.00	\$ 1,600.00	20%
20	Avoid external cost of litigation because of non-compliance - Depositions		\$ 0.00	\$ 1,600.00	20%
21	Avoid internal cost of litigation because of non-compliance - Discovery - document preservation fees		\$ 50.00	\$ 1,000.00	30%
22	Avoid external cost of litigation because of non-compliance - Discovery - document preservation fees		\$ 50.00	\$ 2,000.00	20%

- Free excel spreadsheet, both empty and worked example.
- American-centric.
- Emphasises reduction of legal costs.

Budget and resources

Focused on teaching content

- 1 FTE to support specialist content (maths, specialist notation etc.)
- 1 FTE for more general support
- 3,000 hours of student time to tag images, correct transcripts, etc.

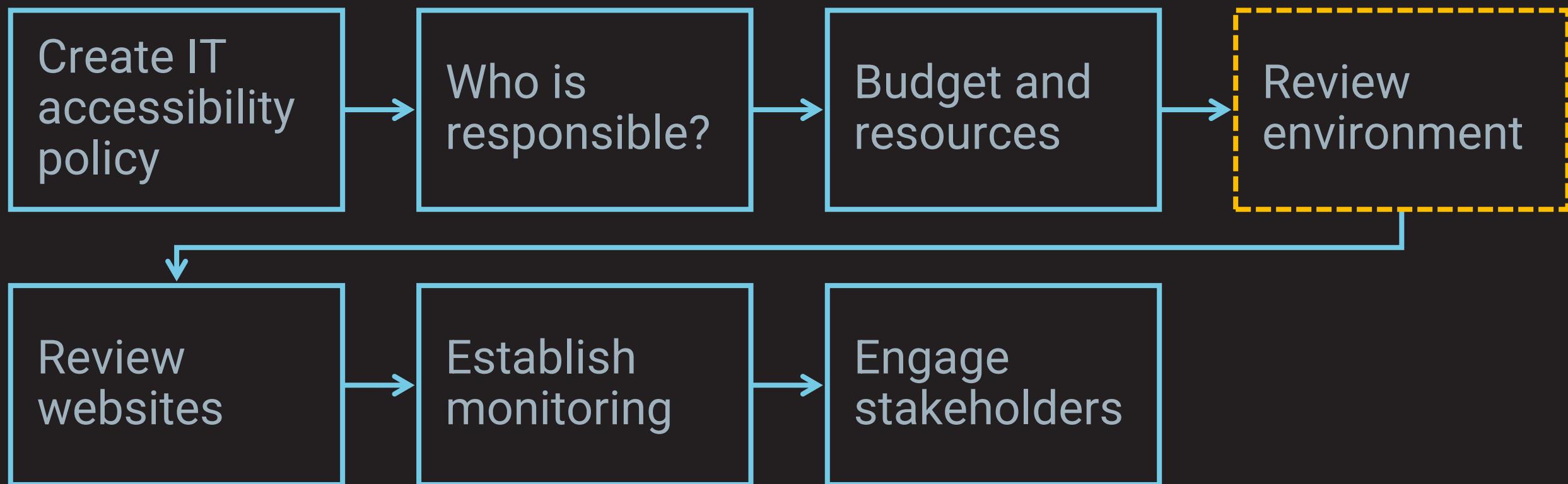
Getting sign-off

1. Shared drafts with key stakeholders
2. Equity, Diversity and Inclusion Committee
3. Education Committee
4. Academic Board



This Photo by Unknown author is licensed under [CC BY-SA](#).

Review environment



Review Environment

How might resources,
processes, and tools in
your organisation impact
accessibility efforts?



Review Environment



Authoring tools

Do your authoring tools allow you to create accessible content (e.g. CMS)



Knowledge and expertise

What is the level of staff knowledge? Is training required?



Tools for testing

Can you build accessibility testing into your processes?

Review Environment



Design and dev processes

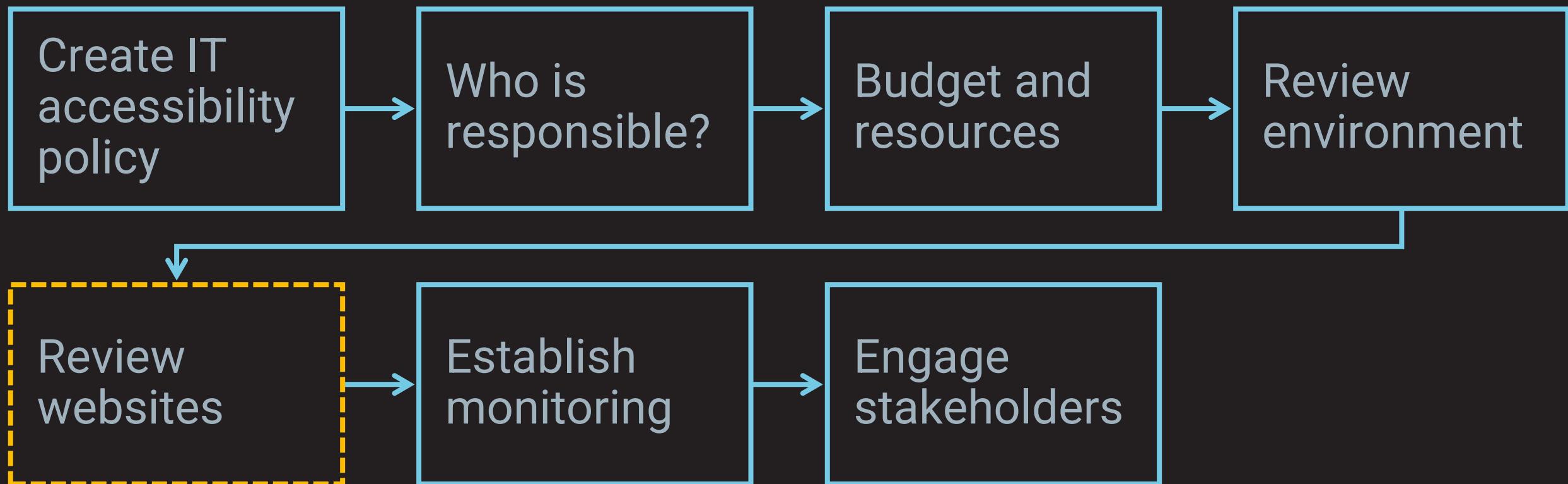
Can accessibility be improved in design and development guidelines and specifications, shared templates and coding libraries, common authoring practices, and other centralized resources?



Policies

How well do existing policies and processes support accessibility? For example, procurement.

Review websites



Review your web estate

Audit for accessibility

- Create a baseline
- Identify training / expertise gaps
- Look for good practice.



Review results

- Problems / anti-patterns to be avoided.
- Defects / prioritisation
- Report to stakeholders

Review your web estate (HE context)



100s of services.



Complex



Technology Stack



Homegrown /
Commercial

Prioritising and grouping

- High usage?
- Business priority?
- Commercial (ACR)?
- Internally developed?
- Platform / Technology used?
- Likelihood of retirement?

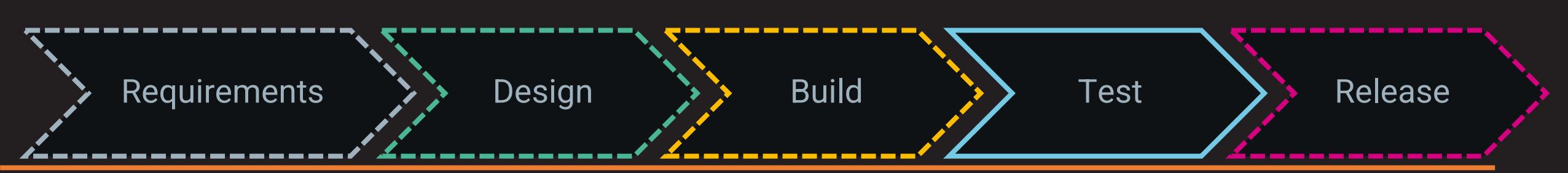
Where are the greatest opportunities for

- Learning?
- Benefiting users through remediating accessibility defects?

Abi James, Digital Accessibility Consultant at Barclays

“attempting to do an accessibility audit with little knowledge of screen readers and accessibility requirements can relate more problems than it solves as often false issues and reported and incorrect fixes are applied.”



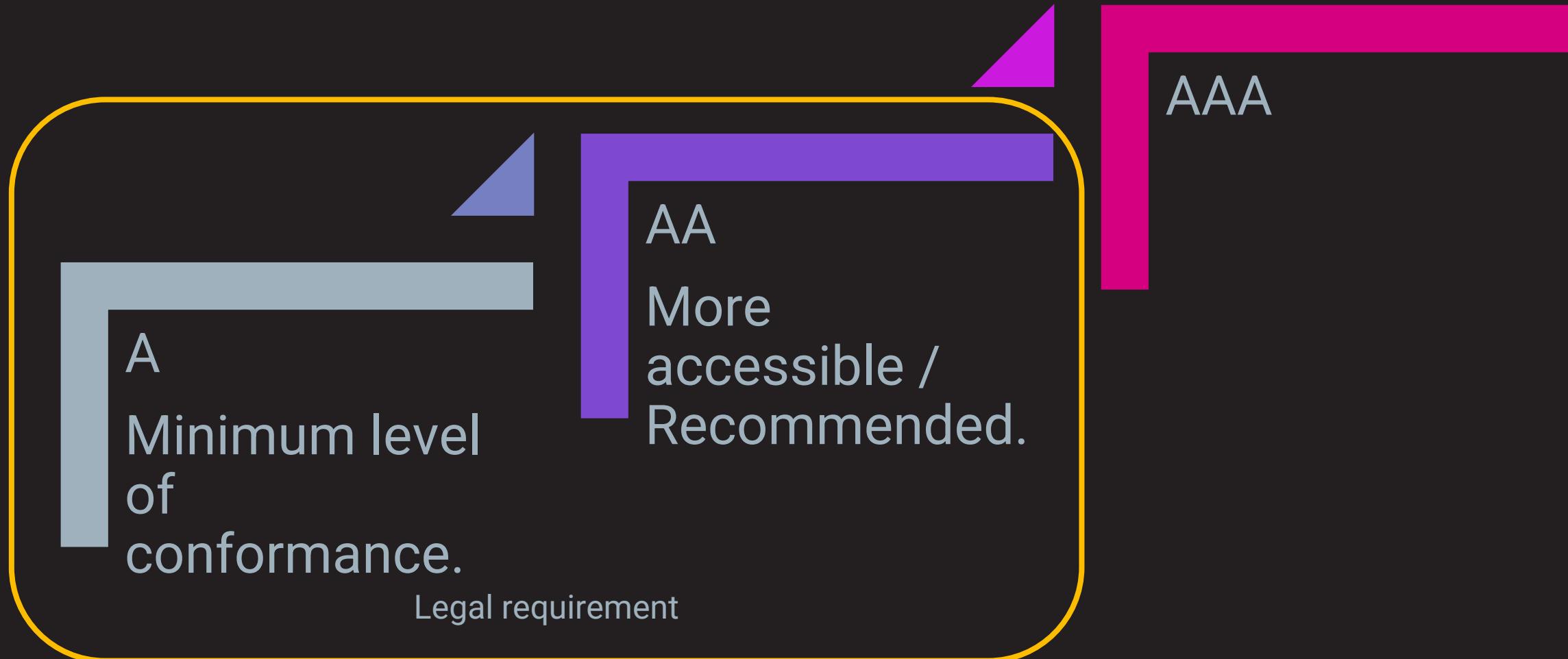


What recommendations are there?

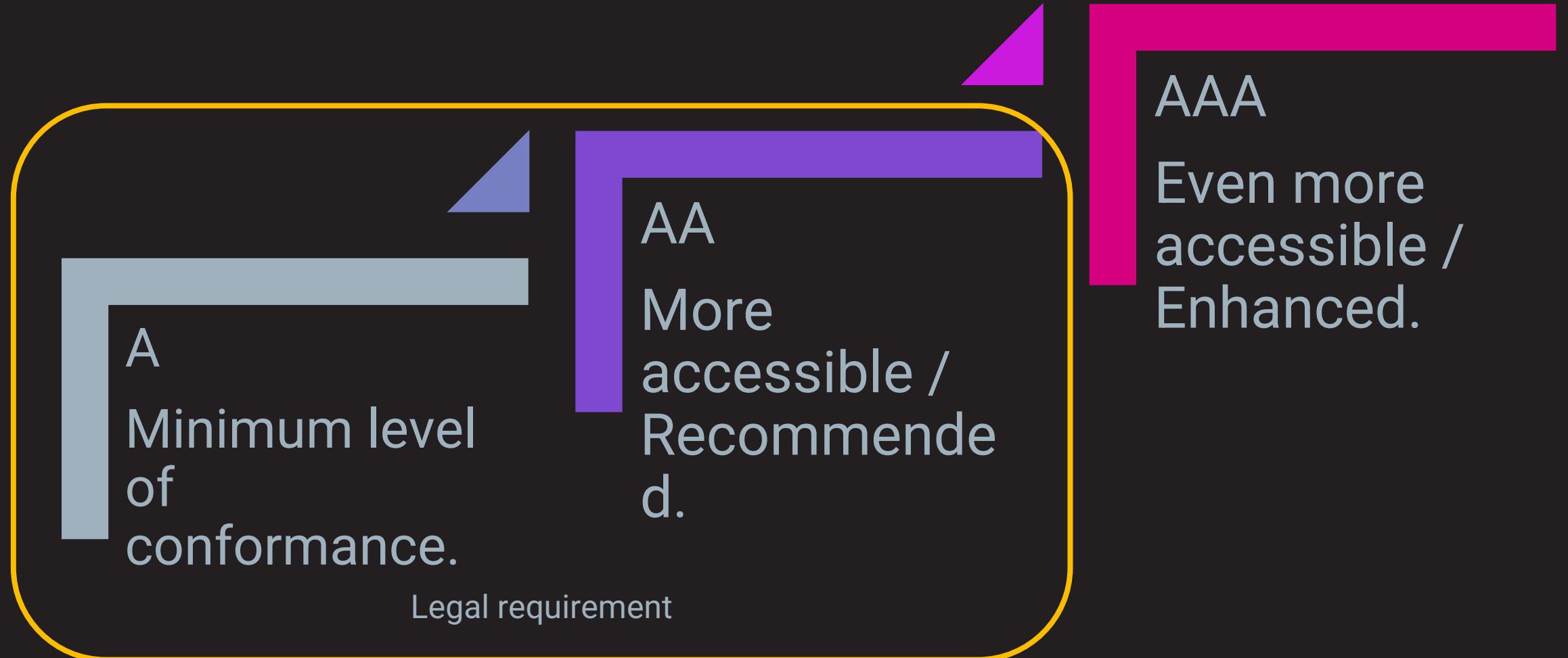
The Web Content Accessibility Guidelines provide guidelines, explanations, and example techniques that pass the test.



Levels of conformance: A and AA



Levels of conformance: AAA



Accessibility guidelines have four high-level principles.

Perceivable

Cater to our
senses.

Operable

We can use
the site.

Understandable

Readable
and
predictable.

Robust

Compatible
across
devices -
even those
to come in
the future.

Example: Success Criterion 1.4.10 Reflow

(Level AA)

Content can be presented without loss of information or functionality, and without requiring scrolling in two dimensions for:

- Vertical scrolling content at a width equivalent to 320 CSS pixels;
- Horizontal scrolling content at a height equivalent to 256 CSS pixels.

Except for parts of the content which require two-dimensional layout for usage or meaning.



Example support resources

“Understanding” page

- Intent
- Benefits
- Examples
- Related Resources
- Techniques
- Test Rules
- Key Terms

“How to meet” guide

- Sufficient Techniques
- Advisory Techniques
- Failures

Success Criterion 1.4.10 Reflow

(Level AA)

Content can be presented without loss
of information or functionality, and without requiring



[Understanding
Reflow](#)
[How to Meet Reflow](#)

Example ‘sufficient techniques’ for reflow

- C32: Using media queries and grid CSS to reflow columns
- C31: Using CSS Flexbox to reflow content
- C33: Allowing for Reflow with Long URLs and Strings of Text
- C38: Using CSS width, max-width and flexbox to fit labels and inputs

- SCR34: Calculating size and position in a way that scales with text size
- C34: Using media queries to unfixing sticky headers / footers
- C37: Using CSS max-width and height to fit images

Best starting point

Selected Filters: WCAG 2.1: all success criteria and all techniques.

Principle 1 – Perceivable

Information and user interface components must be presentable to users in ways they can perceive.

Guideline 1.1 – Text Alternatives

Provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language.

1.1.1 Non-text Content — Level A

All non-text content that is presented to the user has a text alternative that serves the equivalent purpose, except for the situations listed below. [Show full description](#)

[Show techniques and failures for 1.1.1](#)

[SHARE](#) | [BACK TO TOP](#)

Guideline 1.2 – Time-based Media

Provide alternatives for time-based media.

Full, filterable WCAG criteria.

Includes all links to explanations, techniques, and failures.

<https://www.w3.org/WAI/WCAG21/quickref>

What are we aiming for?

Some are simple to attain.

Principle	Level A	Level AA	Level AAA	Total
Perceivable	9	11	9	29
Operable	16	5	13	34
Understandable	8	6	7	21
Robust	2	1	0	3
Total	58		29	87

Baseline

Based on WCAG
2.2

“Accessibility Testing as a Service”

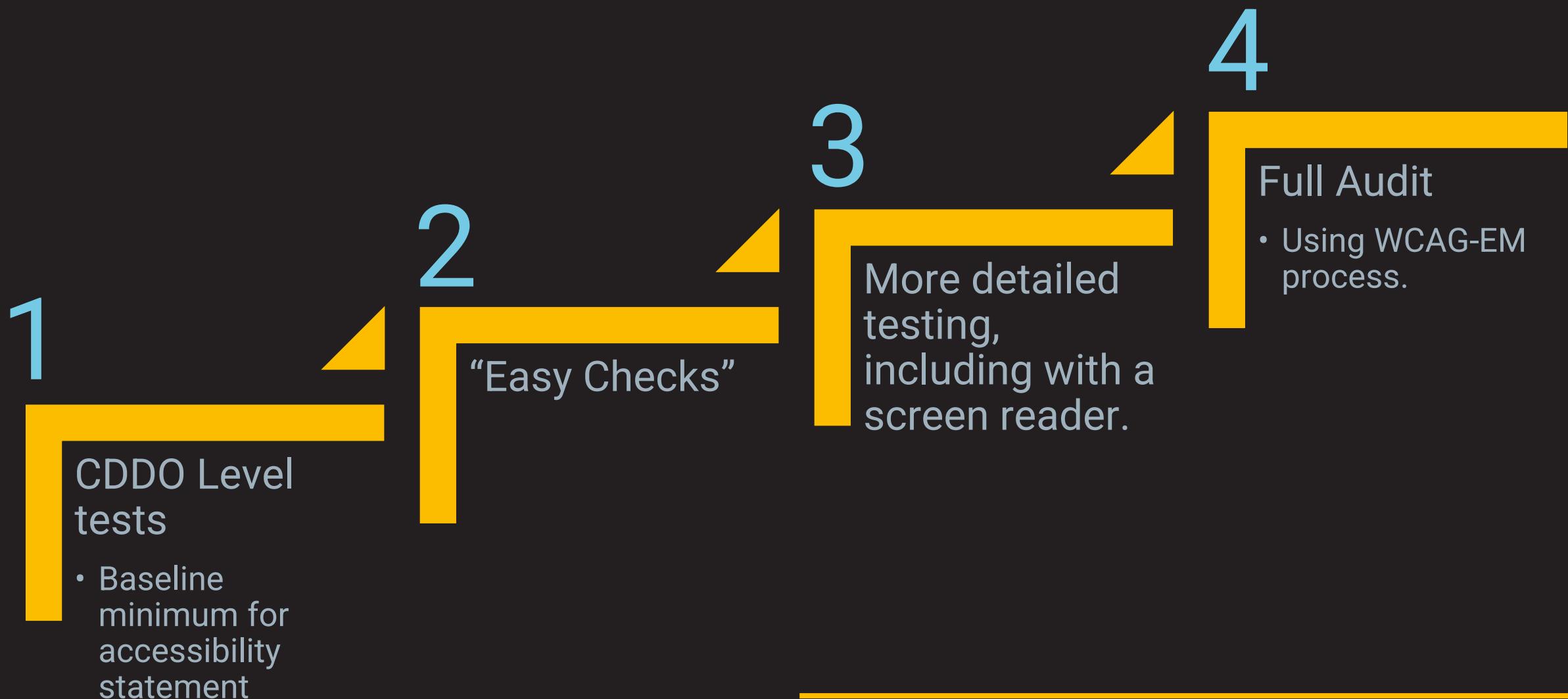


What does CDDO do when checking compliance?

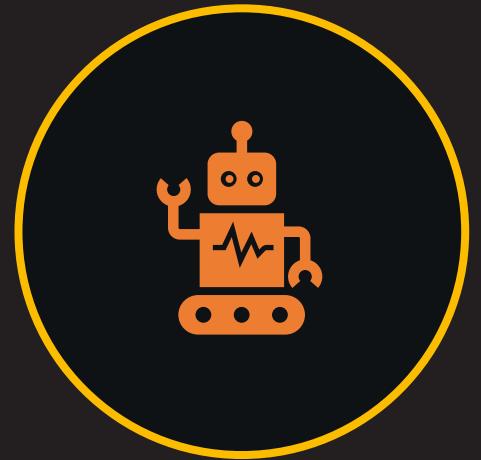
A Freedom of Information (FOI) request resulted in CDDO sharing a document that includes their testing procedure.

- The pages are tested using automated tools (currently axe).
- Errors found are correlated and checked manually.
- Perform a keyboard, tab through and zoom check.
- Tests are completed using a Google Chrome browser on Mac OSX.

Level of testing



Types of test



Automated



Manual



Guided

What does CDDO do when checking compliance?

A Freedom of Information (FOI) request resulted in CDDO sharing a document that includes their testing procedure.

- The pages are tested using automated tools (currently axe).
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- Tests are completed using a Google Chrome browser on Mac OSX.

What does CDDO do when checking compliance?

A Freedom of Information (FOI) request resulted in CDDO sharing a document that includes their testing procedure.

- If a simplified test finds major accessibility issues with a site (meaning a user group is not able to use the site or service), the site is likely to have a detailed audit.

- Detailed audits will test against the full range of WCAG 2.1 success criteria up to level AA. Assistive technology will be used to check compliance as well as the automated and manual methods used in simplified testing.

W3C Easy Checks / Quick Accessibility Checks

- Page title
- Image text alternatives ("alt text") (pictures, illustrations, charts, etc.)
- Text:
 - Headings
 - Contrast ratio ("colour contrast")
 - Resize Text
- Interaction:
 - Keyboard access and visual focus
 - Forms, labels, and errors (including Search fields)
- General:
 - Moving, Flashing, or Blinking Content
 - Multimedia (video, audio) alternatives
 - Basic Structure Check

Image alternatives

Text alternatives are available for images

- Does each decorative image have a null alt text or aria-hidden?
- Is the alt text on other images meaningful?

[Testing for image text](#)

Risk estimate: Low / Medium / High

Comments:

Who might be affected:

Who can fix it:

Confidence in check:

What does CDDO do when checking compliance?

A Freedom of Information (FOI) request resulted in CDDO sharing a document that includes their testing procedure.

- The pages are tested using automated tools (currently axe).
- Errors found are correlated and checked manually.
- Perform a keyboard, tab through and zoom check.
- Tests are completed using a Google Chrome browser on Mac OSX.

Level 3 - More detailed testing, including with a screen reader



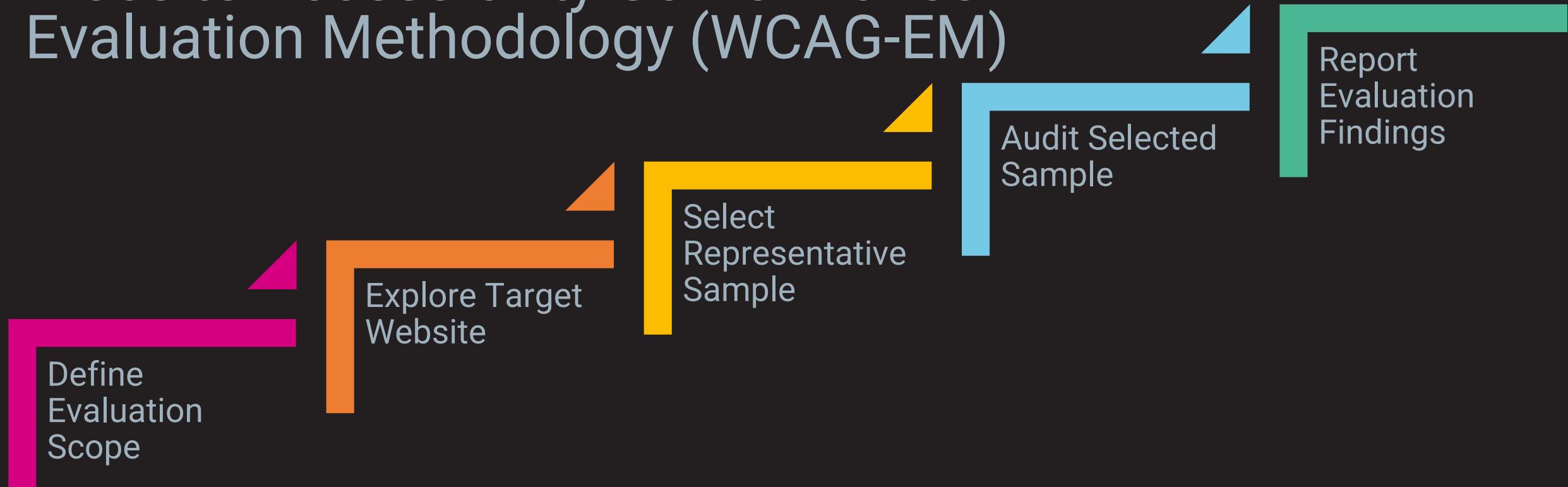
As expertise of accessibility testing grows, build a more sophisticated test plan that covers more criteria.



Example of UoS Digital Learning Team's “level 3 accessibility test”.

Level 4: Full Audit

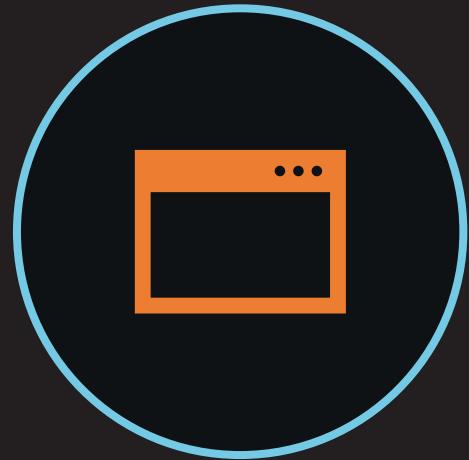
Website Accessibility Conformance Evaluation Methodology (WCAG-EM)



Automated testing possibilities



Browser addon



Command line



Continuous integration

What will you test?

- ✓ Representative pages from every kind of template on the site
- ✓ Coverage of all components used across the site
- ✓ An optional percentage of extra pages to test as a confidence check (e.g. pick pages that are popular according to analytics testing reports)
- ✓ A list of “Positive / Negative Scenarios” to test (e.g. successful module choice, module choice with errors, etc.)

For each of the pages chosen:

- ✓ Use an automated tool to highlight issues that can be caught by a machine.
- ✓ Perform the manual tests.

For each of the “Positive / Negative Scenarios” provided:

- ✓ Attempt to go through the flows with just your keyboard.
- ✓ Then go through the flows with your keyboard and a screen reader. Really listen to ensure that users who are not sighted are being given enough context to understand the experience.

Accessibility Statement



Accessibility Statement

1. What is not accessible, and why.



Accessibility Statement

1. What is not accessible, and why.
2. Accessible alternatives.



Accessibility Statement

1. What is not accessible, and why.
2. Accessible alternatives.
3. Contact process.



Accessibility Statement

1. What is not accessible, and why.
2. Accessible alternatives.
3. Contact process.
4. Enforcement procedure.



Accessibility Statement

Should be based on a template provided by CDDO.



Accessibility Statement

Should be based on a template provided by CDDO.

An opportunity to provide more information.



What else might be in an Accessibility Statement?

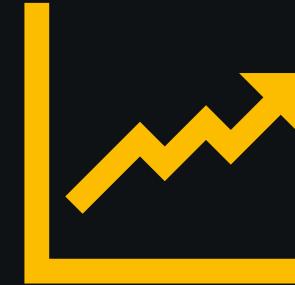
- Link to other statements
- More information about using assistive technology with the site.
- Links to other accessibility information.



Maintaining accessibility statements for our services will...



Build a culture of removing barriers to the use of our services.



Encourage reporting of accessibility defects, helping us to find new ways to improve our services and remove barriers.



Want to find good Accessibility Statement examples?

kent.ac.uk have 35 accessibility statements for their service

In this section

Accessibility statement

[StaffConnect accessibility statement](#)

[Student Data System \(student view\)](#)

[Turnitin accessibility statement](#)

[School of Mathematics, Statistics and Actuarial Science \(SMSAS\) accessibility statement](#)

[Unified Library Management System \(ULMS\)
LibrarySearch accessibility statement](#)

[Hello Kent mobile application accessibility statement](#)



Want to find good Accessibility Statement examples?

Kent also has a statement written by their DVC Education and Student Experience asking staff and students to “help the University meet accessibility standards”.

In this section

Accessibility statement

[StaffConnect accessibility statement](#)

[Student Data System \(student view\)](#)

[Turnitin accessibility statement](#)

[School of Mathematics, Statistics and Actuarial Science \(SMSAS\) accessibility statement](#)

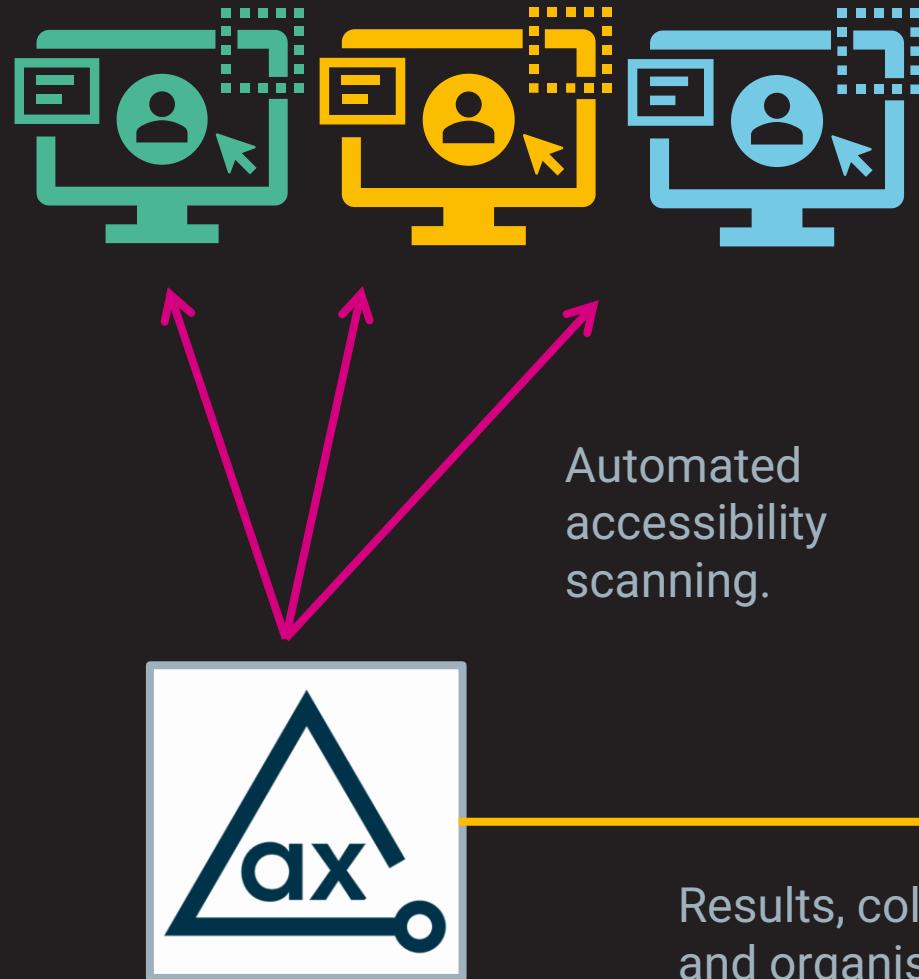
[Unified Library Management System \(ULMS\)](#)

[LibrarySearch accessibility statement](#)

[Hello Kent mobile application accessibility statement](#)

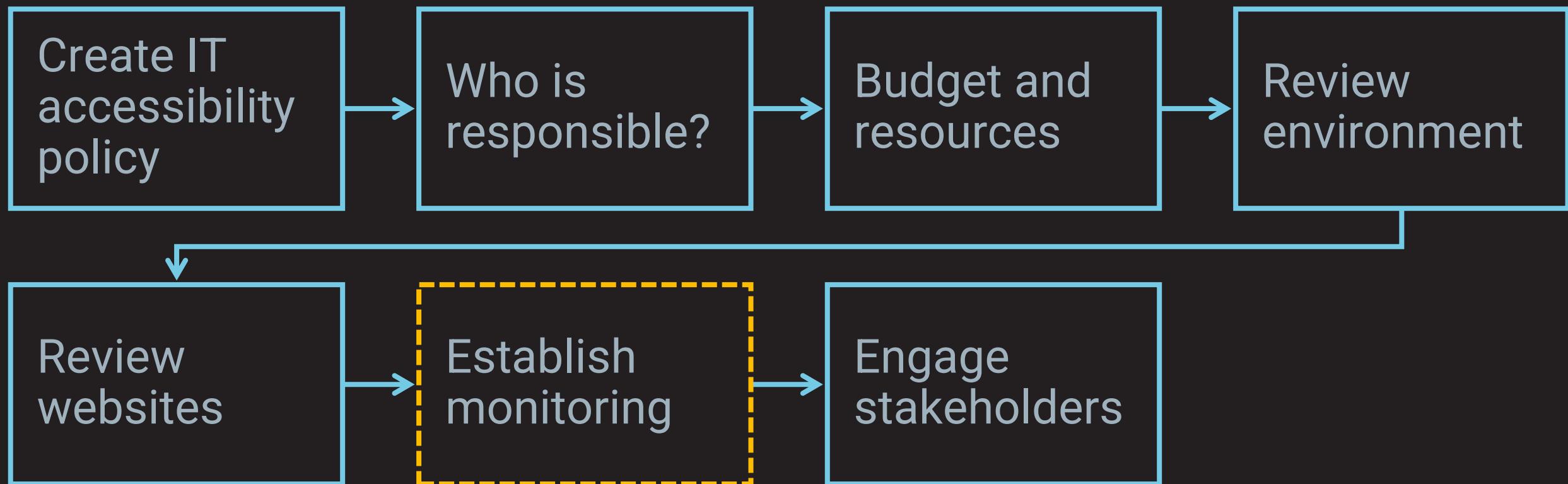


Automated testing to identify trends and quick fixes



- Colour contrast
- Use of headings
- Missing alternative text
- Text scaling and zooming disabled

Establish monitoring



Establish monitoring

Create a standard way of monitoring and reporting findings, in order to track and progress.



Accessibility defects found / resolved



Accessibility statements published / revised



New services / changes with / without accessibility defects



Accessibility training sessions completed

PEAT's suggestions

Partnership on Employment & Accessible Technology (PEAT) suggest measuring:



Internal Staff and Leadership Metrics

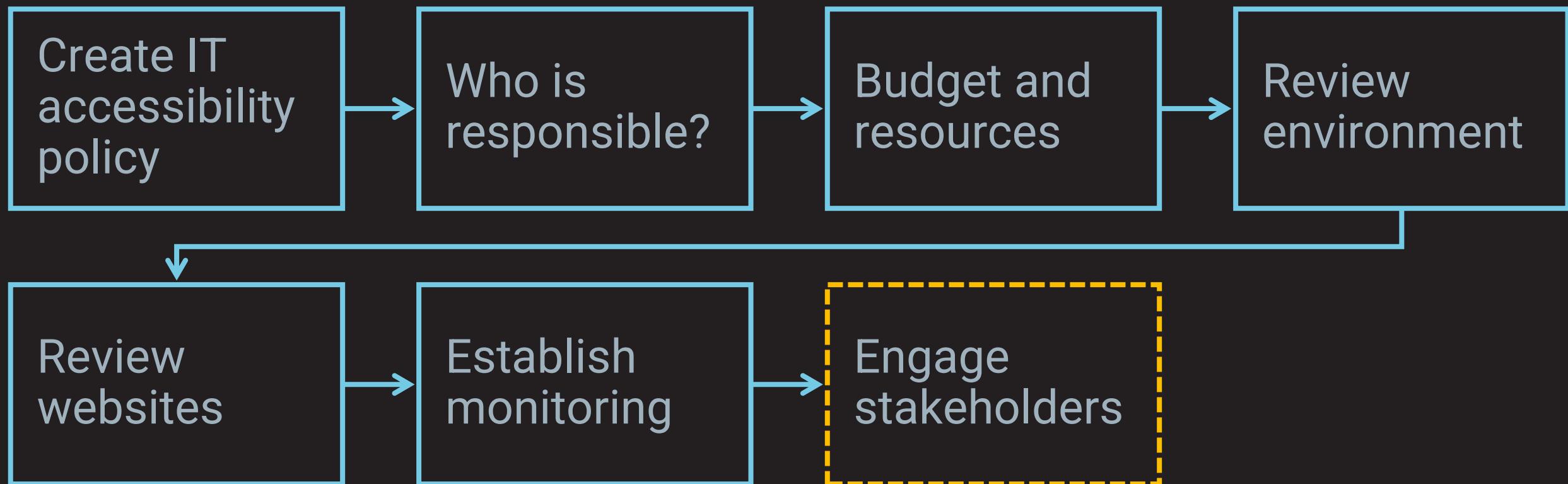


Development, Procurement, and Technology Infrastructure Metrics



External Metrics

Engage stakeholders



Engage stakeholders

Engage with your stakeholders to bring them on board and to identify how they can help you meet your accessibility goals, and how digital accessibility will help them to achieve theirs.



Engage stakeholders

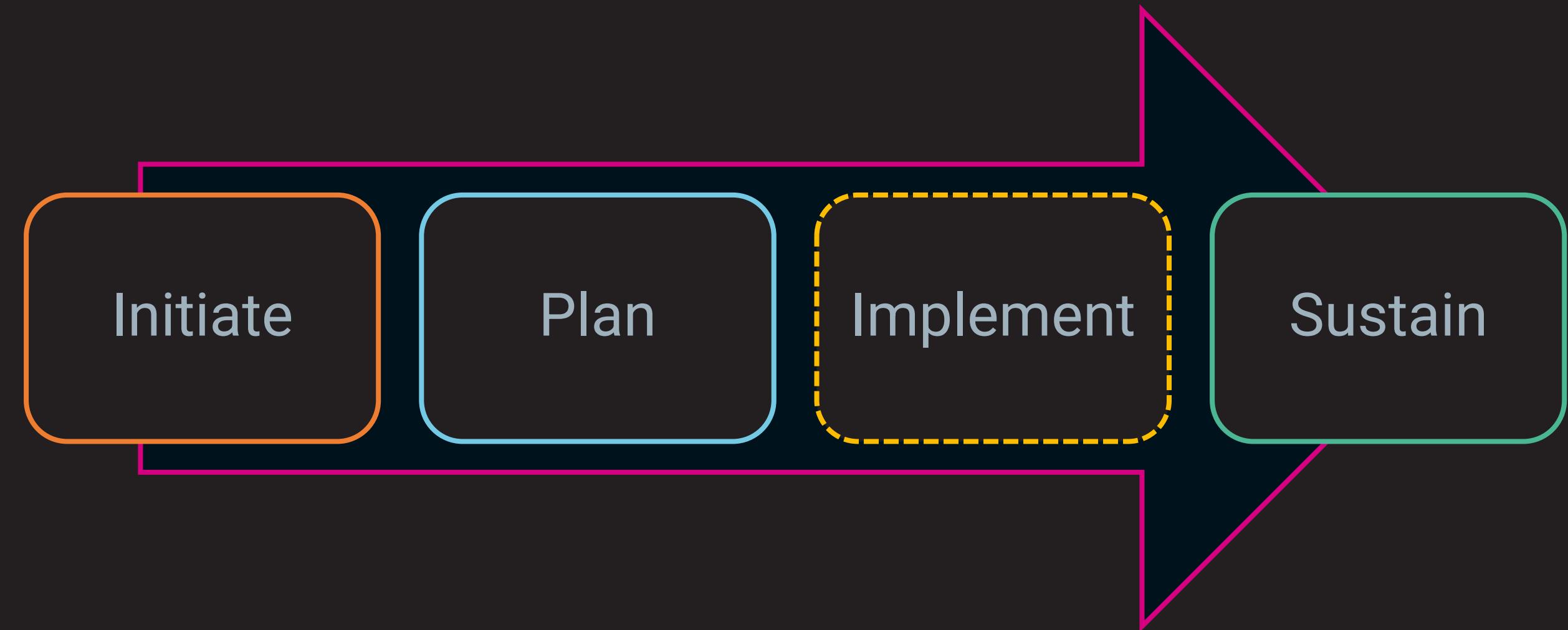
Departmental stakeholders

- Managers
- Project teams
- Development teams
- Comms teams
- Learning Designers

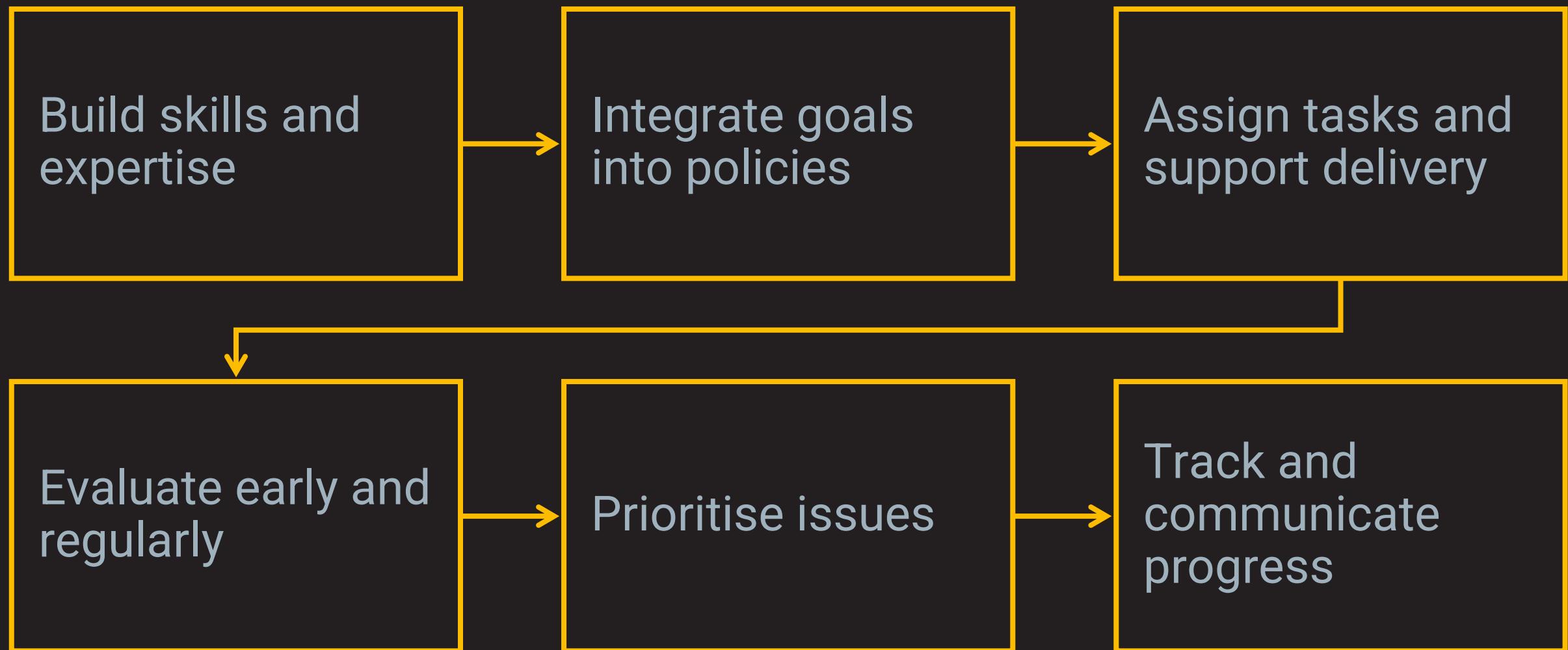
External stakeholders

- Students / student reps / union
- Staff disability groups
- Occupational Health
- etc

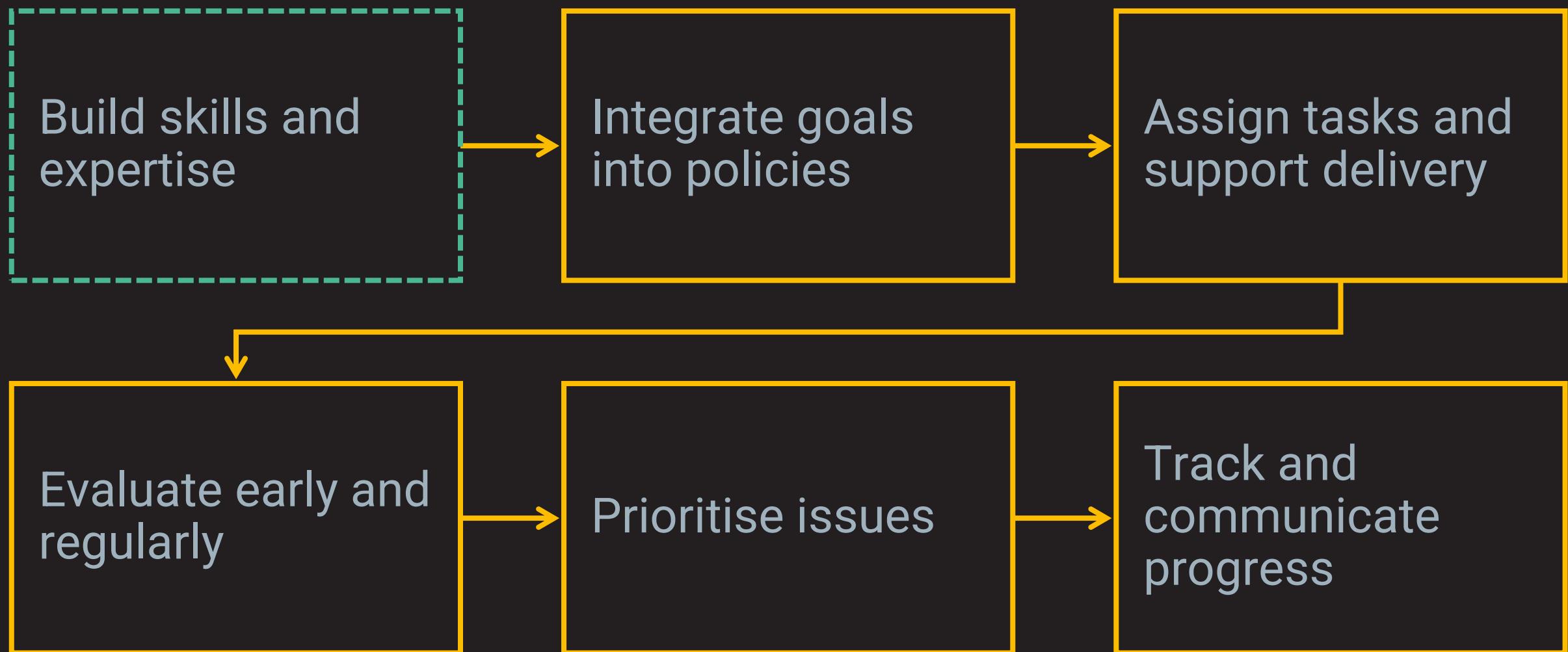
Planning and Managing Web Accessibility



Implement



Build skills and expertise



Build skills and expertise

Develop the accessibility skills of everyone involved, including

- designers,
- developers,
- content creators,
- and managers.

This includes providing training for existing staff, as well as including accessibility skills in staff recruitment criteria.



Training examples



Introductory course for everyone



The business case for accessibility, for leaders and project managers.



Accessible visual design, for designers, marketing, content creators

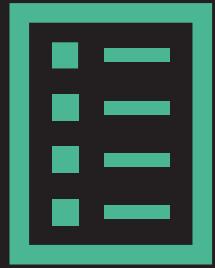


Accessible coding practices, for developers



Writing accessible content, for content authors

Building on training



Document and share experiences.



Capture and communicate lessons learned, and successful training approaches.



Include what didn't work, as well as what did, to avoid time being spent on suboptimal approaches.

Recommended Technical Training

- Website Accessibility
- Web Accessibility Compliance
- Accessibility For UX Designers
- Start Building Accessible Web Applications Today
- Accessibility: Testing and Screen Reader Use

Teach Access Accessibility Skills Hiring Toolkit

Teach Access Accessibility Skills Hiring Toolkit

About the Toolkit

Teach Access provides the Accessibility Skills Hiring Toolkit to help organizations build internal capacity for producing accessible digital products by developing a knowledgeable and skilled workforce. The toolkit currently provides Position Description Language and Interview Questions.

Job Positions

Published Roles

- [Content Author/Producer](#)
- [Front-End Developer](#)
- [Instructional Designer](#)
- [Legal Counsel](#)
- [Multimedia Producer](#)
- [Product Owner/Manager](#)
- [Project Manager](#)
- [Quality Assurance Tester](#)

Helps organizations build internal capacity for producing accessible digital products by developing a knowledgeable and skilled workforce.

The toolkit currently provides Position Description Language and Interview Questions.

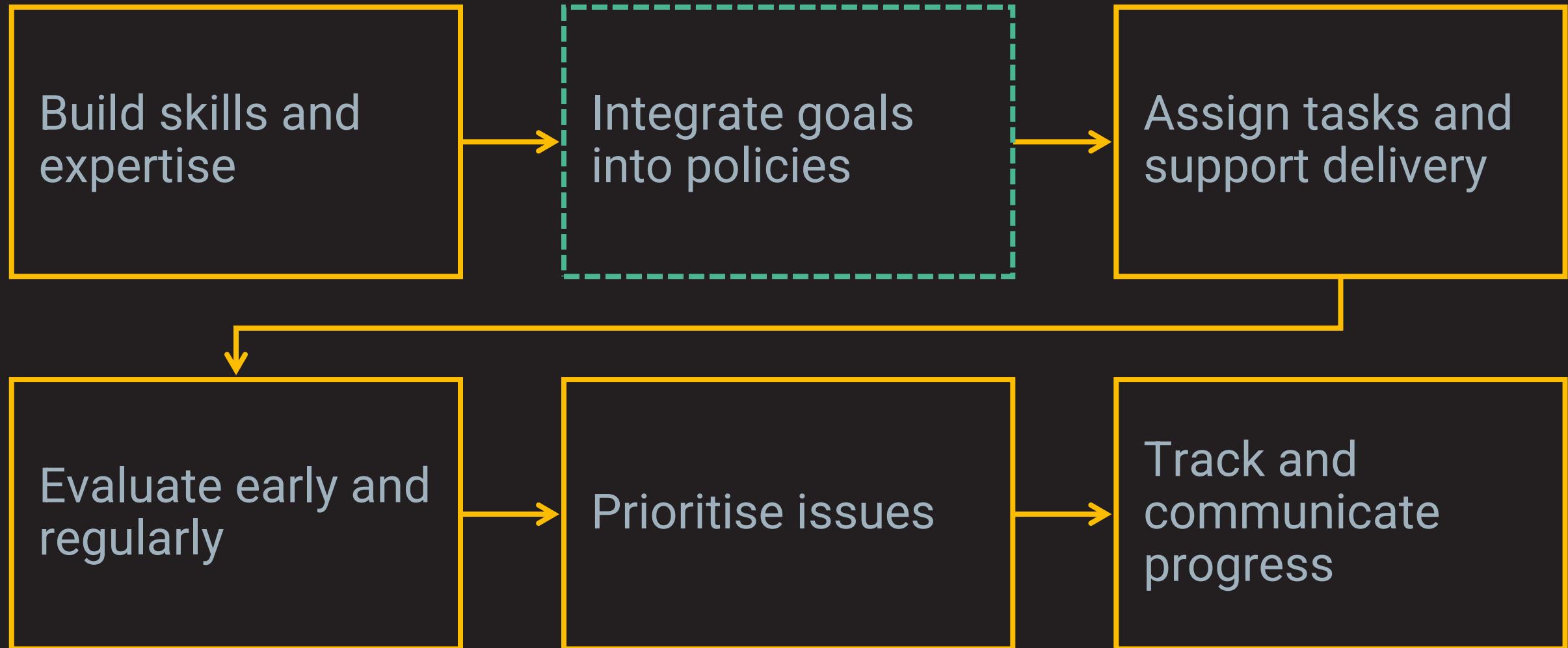
Matt May, Adobe



“What we have are a few people who know a lot about Accessibility.

What we need are a lot of people to know a little about it.”

Integrate goals into policies (and processes)

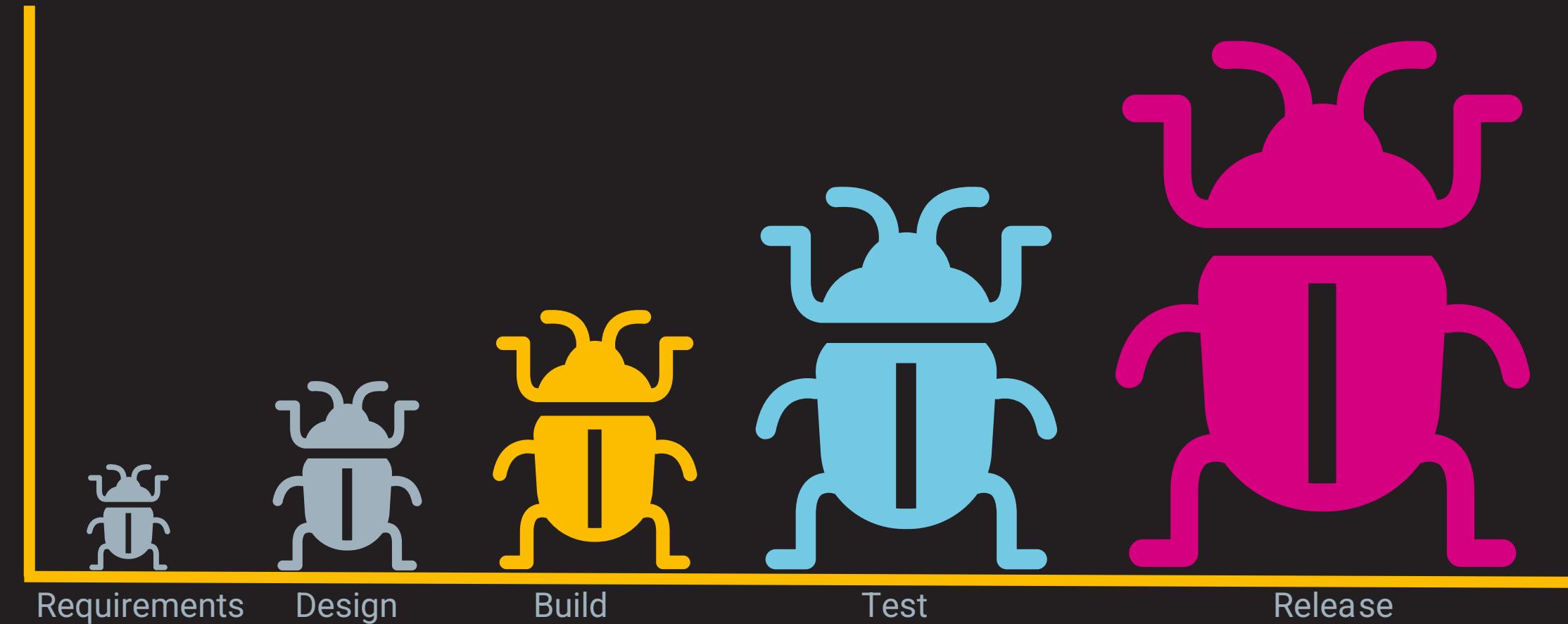


Integrate goals into policies (and processes)

Integrate the goals from your accessibility policy within other organisational procedures and policies.

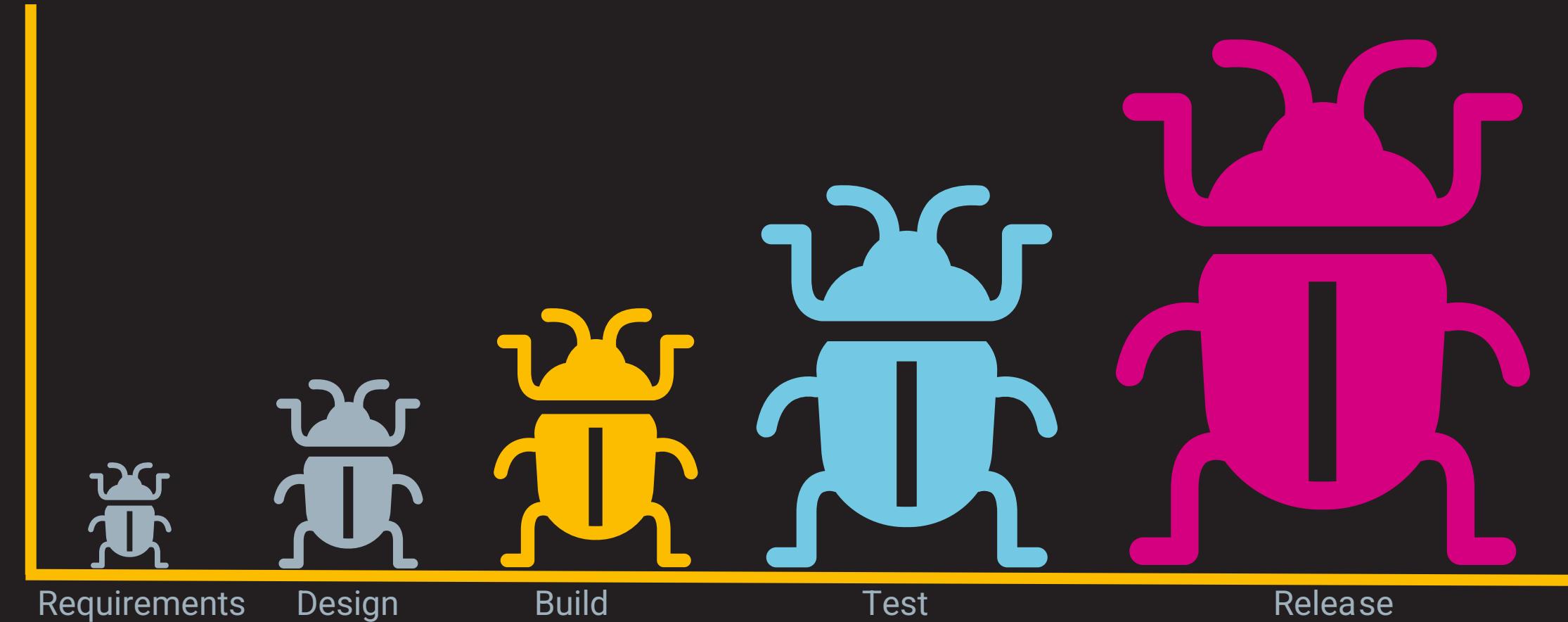
This will help spread the responsibility but also ensure that accessibility is considered as an integral part of day-to-day activities.

Cost of bugs



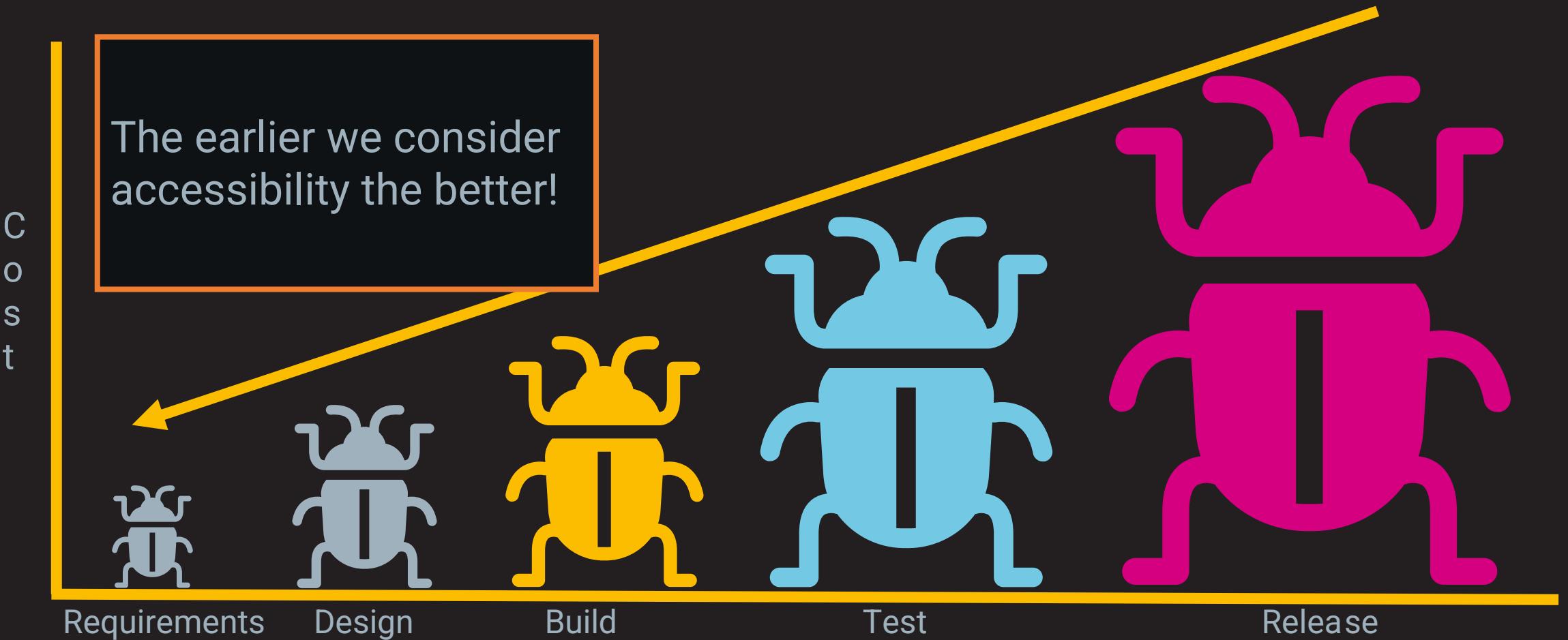
Source: Glenda Sims, Deque

Cost of accessibility bugs



Source: Glenda Sims, Deque

Cost of accessibility bugs



Source: Glenda Sims, Deque

Requirements

- Include accessibility within project documentation.
- Non Functional Requirements.
- Accessible procurement

Design

- Involve users (including with impairments) in co-design.
- Accessible component library and atomic design elements.
- Annotate wireframes with accessibility details.

Build

- Linters and IDE plugins.
- Framework extensions (e.g. Bootstrap accessibility plugin)
- Git actions.

Test

- Browser based test tools.
- Checklists / checking sheet.
- Command line / CI tools.
- Automated tests with Selenium etc.
- Gherkin tests.

Release

- Accessibility statement as part of go-live checklist.
- Accessibility testing as part of Change Management.
- Dashboards.
- Review accessibility statements annually.

Shift left

Using examples from



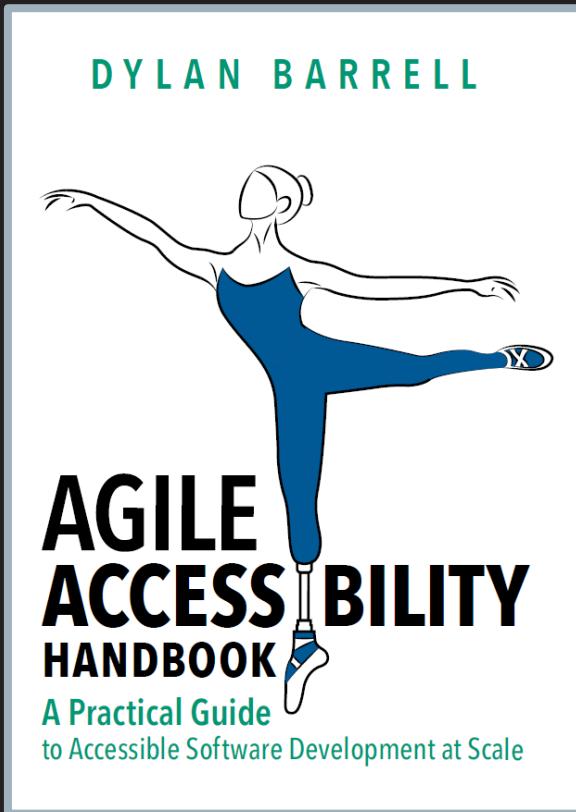
FIAT CHRYSLER AUTOMOBILES



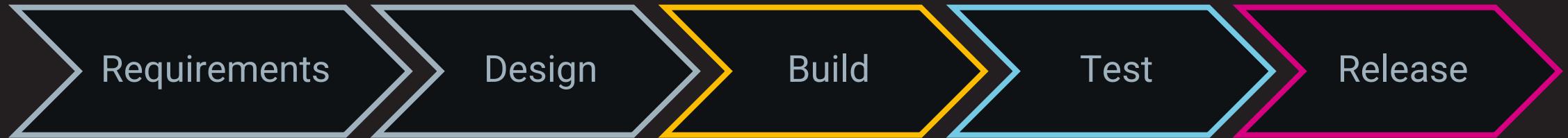
PNC



Agile Accessibility Handbook



<https://www.amazon.co.uk/dp/164543477X/>



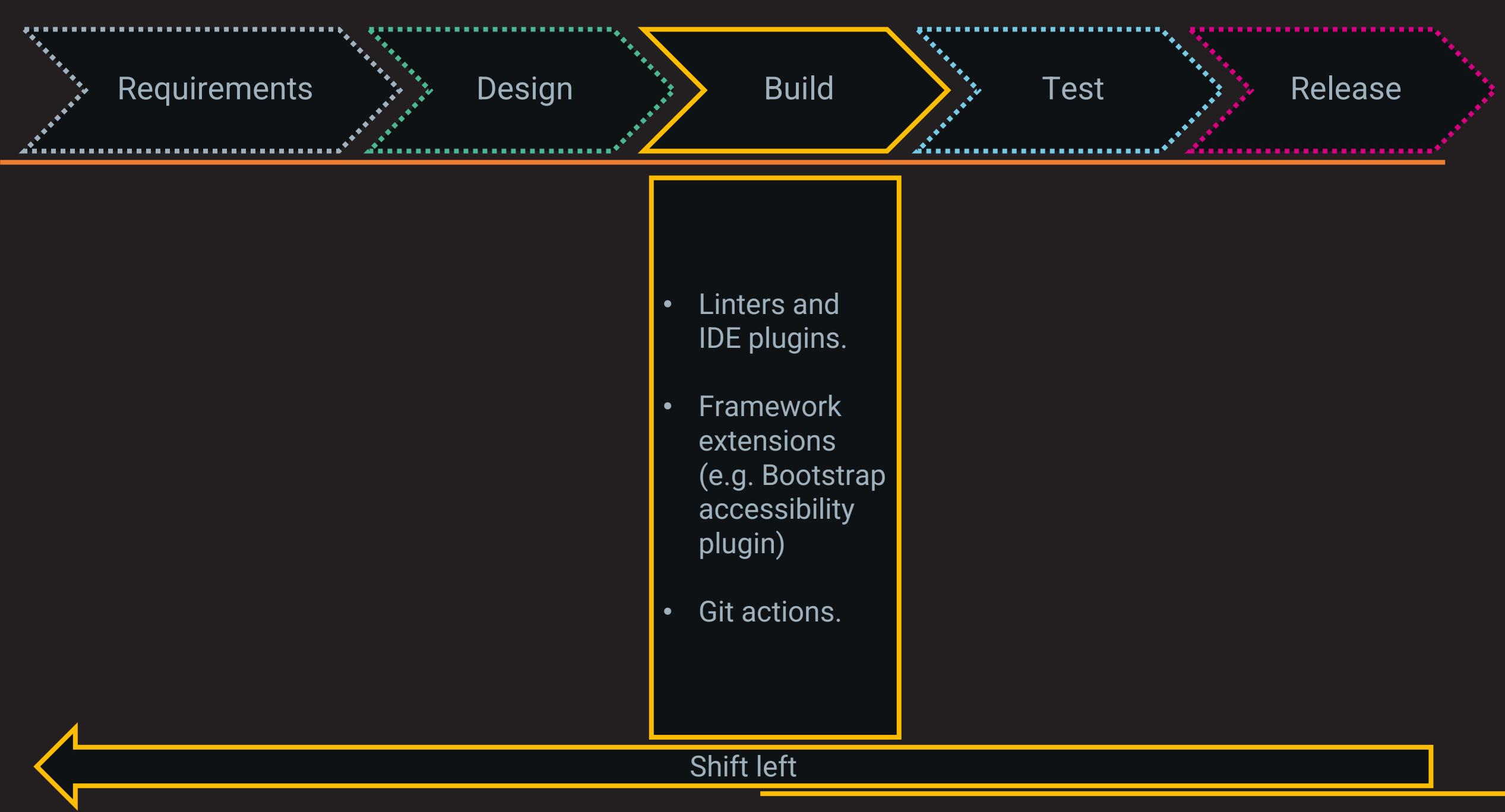
“Make sure it's accessible”

“We have to make it accessible”.

“We have to test that it's accessible.”

“Only release when it's accessible”

Shift left



Requirements

Design

Build

Test

Release

- Linters and IDE plugins.
- Framework extensions (e.g. Bootstrap accessibility plugin)
- Git actions.

Shift left

Integrated development environment plugins

- ✓ Identify possible accessibility issues whilst coding.

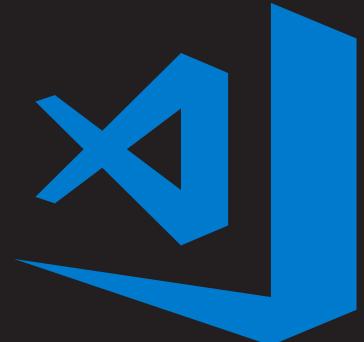
```
</nav>
```

Use Semantic HTML5 or specify a WAI-ARIA role [role=""] web accessibility

```
<div class="content-wrapper">  
  <main class="main">
```

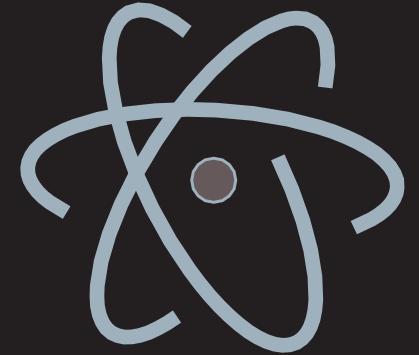
Visual Studio Code

- Web Accessibility Linter for VS Code
- Axe Core Linter for VS Code
- Bri11iant: a VSCode language extension for supporting web developers improve the accessibility of their websites.
- Using Tenon Accessibility Checker in VS Code
- WebHint – Accessibility testing + plugin for Visual Studio Code



Atom

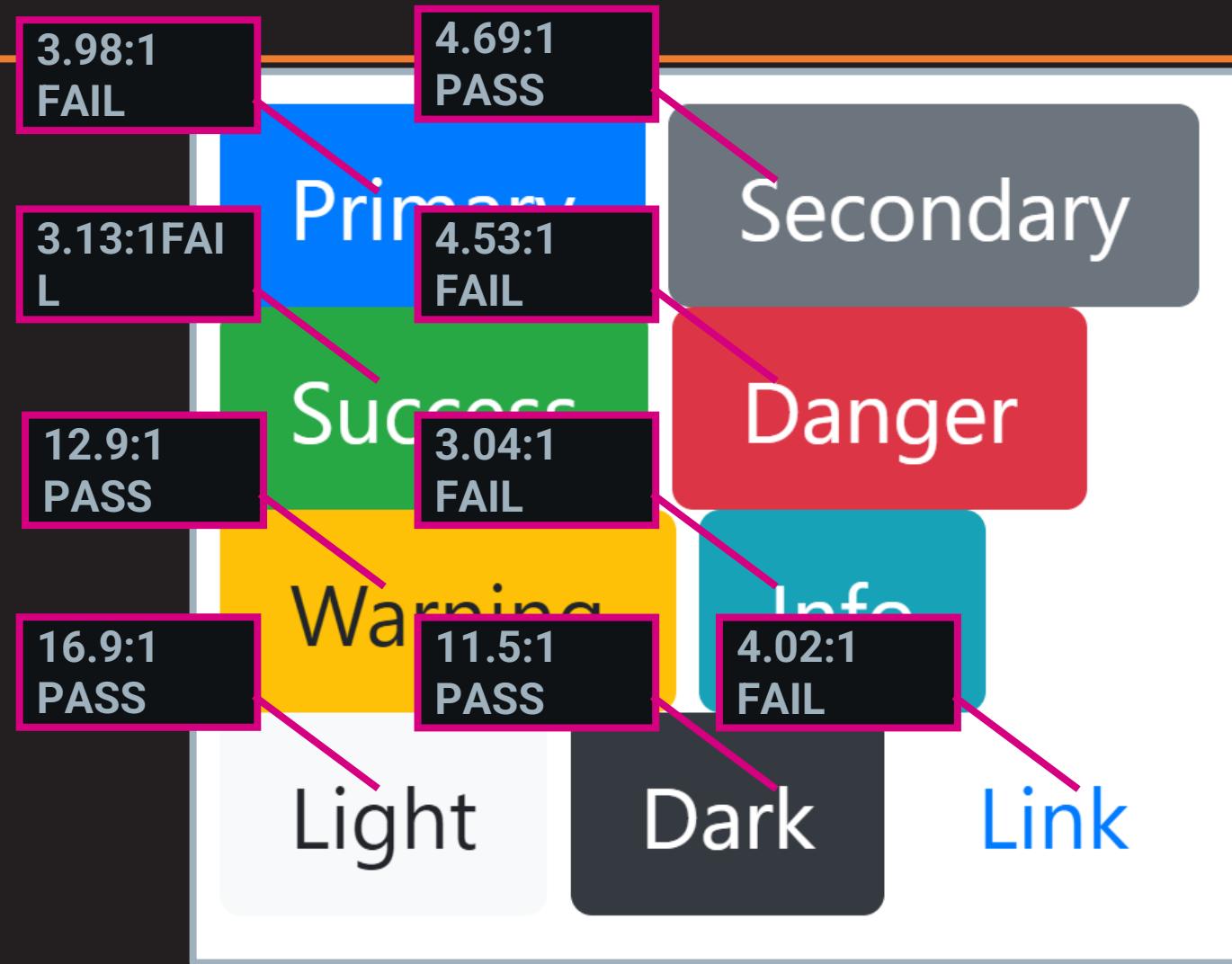
- Atom accessibility plugin
- Atom accessibility snippets



For Frameworks

- React
 - React-a11y.
 - Static AST checker for accessibility rules on JSX elements.
 - Accessibility with React
 - Accessibility-Flavoured React Components
 - Storybook Accessibility Addon
- Vue
 - Accessibility auditing for Vue.js
- Angular
 - Protractor / Angular Accessibility testing
- Bootstrap
 - Bootstrap accessibility plugin
 - Accessible bootstrap frameworks
- Ember
 - ember-a11y-testing

Bootstrap



Source Control

A screenshot of a GitHub pull request interface. At the top, there's a code snippet:

```
4
3 export class ShoppingList extends React.Component {
4   render() {
5     return (
6       <div className='shopping-list' role='articel' tabIndex='3'>
```

Below the code, a comment from "axe-linter bot" is shown, timestamped "19 hours ago". The comment is titled "Suggested change" and contains the following text:

```
6       <div className='shopping-list' role='articel' tabIndex='3'>
6       <div className='shopping-list' role='article' tabIndex="-1">
```

At the bottom of the comment area, there are two buttons: "Commit suggestion" and "Add suggestion to batch".

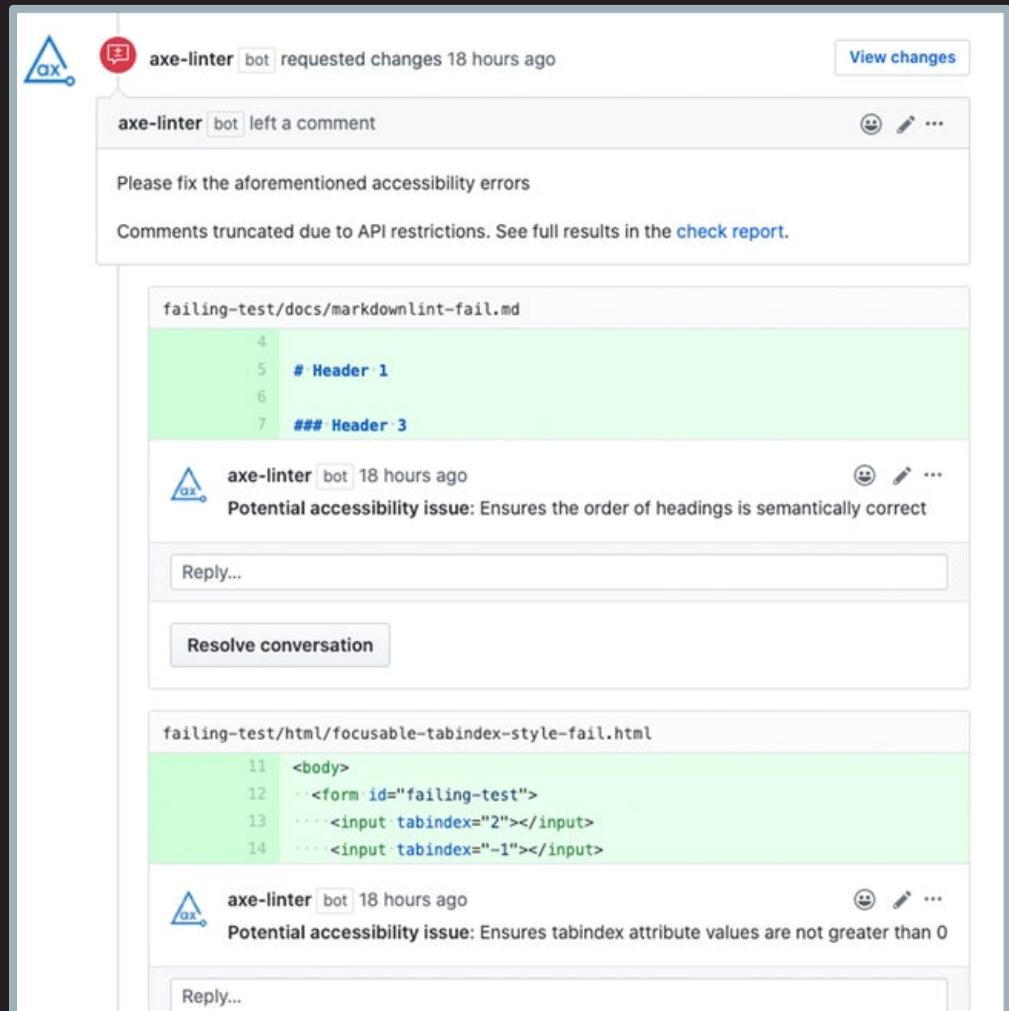
Below the comment area, there's a "Reply..." button and a "Resolve conversation" button.

At the very bottom, more code is visible:

```
7       <h1>Shopping List for {this.props.name}</h1>
8       <ul>
9         <li>Instagram</li>
```

Axe Linter
analyses
changed
or added
code of
pull
requests,
reports
issues

Source Control



Automatically requests changes to resolve common issues.

Requirements

Design

Build

Test

Release

- Involve users (including with impairments) in co-design.
- Accessible component library and atomic design elements.
- Annotate wireframes with accessibility details.

Shift left

Co-design



“Our perspective is that the best way to assess accessibility is to include the end users and hear their perspectives”

Fable TechLabs

Co-design within a University environment

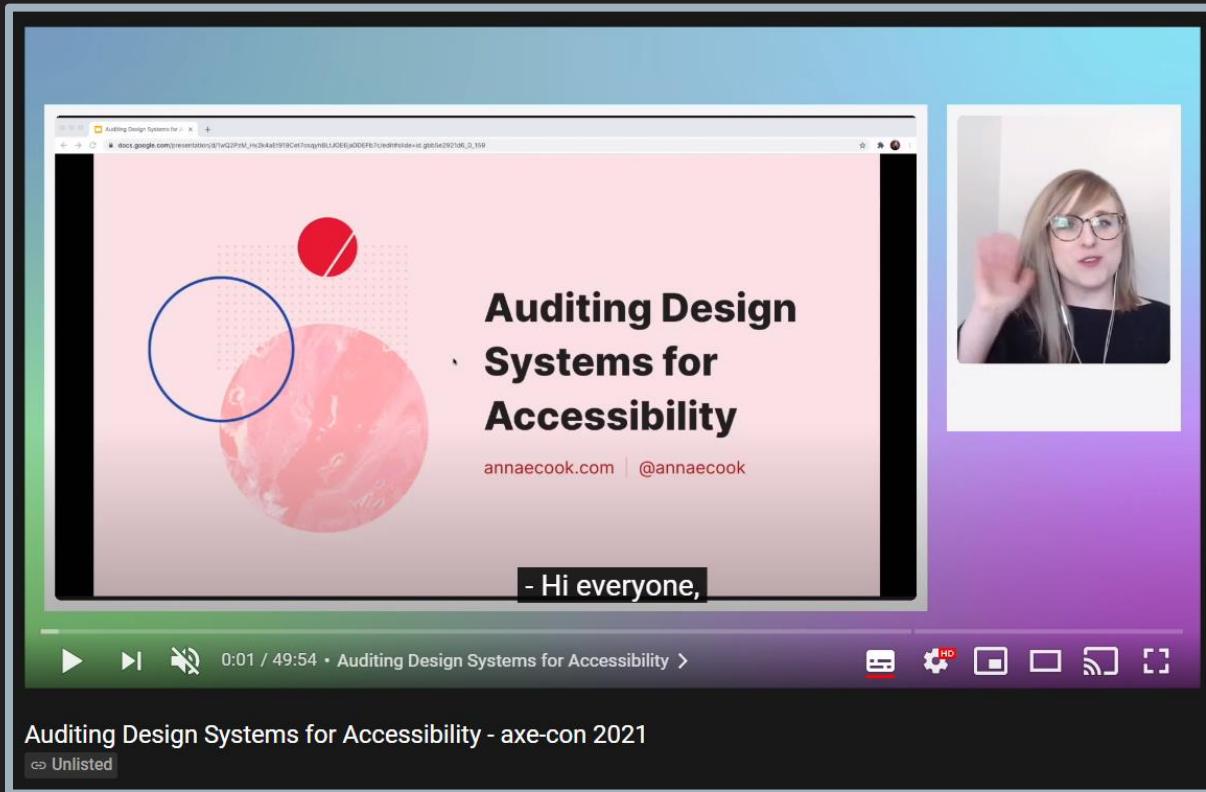


Groups and networks may be willing to help and happy to be asked.



Recognise people for their help.

Auditing design systems for accessibility

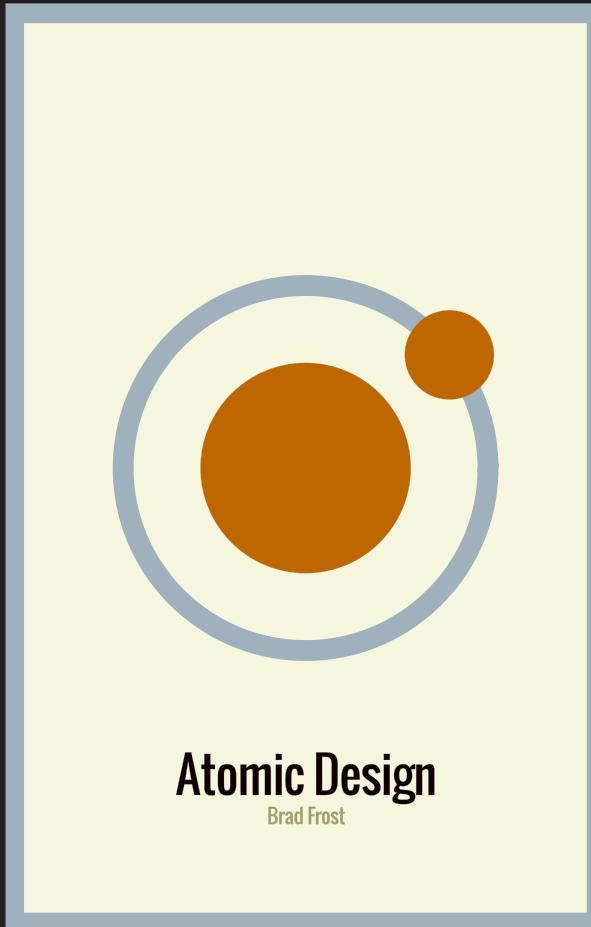


Anna Cook, Senior Product Designer at Recurly

- creating design systems with baked-in accessibility compliance

<https://www.youtube.com/watch?v=6PHTGHgCQig>

Using concepts from “Atomic Design” by Brad Frost



Design Tokens

Heading 1

Heading 2

Heading 3

Heading 4

Text

Text/Ancillary

Text/Muted

Text/Tooltip

Link

Chart Legend



Roboto - Light:
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Roboto - Regular:
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Colour palette

Colour creates visual impact and distinguishes a brand. It connects different types of content to help the user make faster, more informed decisions.

Neutral

Plain Black	Rich Black	Neutral 1	Neutral 2	Neutral 3	Neutral 4
#231F20 00.00.00.100 PMS Blk RGB 29.29.27	#00131D 60.00.00.100 PMS Rich Blk RGB 00.19.29	#495961 30.00.00.75 PMS 445 RGB 73.89.97	#758D9A 20.00.00.34 PMS 5425 RGB 117.141.154	#9FB1BD 20.00.00.34 PMS 5435 RGB 159.177.189	#E1E8EC 06.00.00.10 PMS 642 RGB 225.232.236

Marine

Marine 1	Marine 2	Marine 3	Marine 4	Marine 5	Marine 6
#005C84 100.31.08.44 PMS 7469 RGB 00.85.127	#74C9E5 55.00.09.00 PMS 2905 RGB 116.201.229	#3CBAC6 68.00.25.00 PMS 7709 RGB 60.186.198	#B3DBD2 35.00.22.00 PMS 5595 RGB 179.219.210	#4BB694 68.00.52.00 PMS 7465 RGB 75.182.148	#C1D100 33.00.100.00 PMS 381 RGB 193.209.00

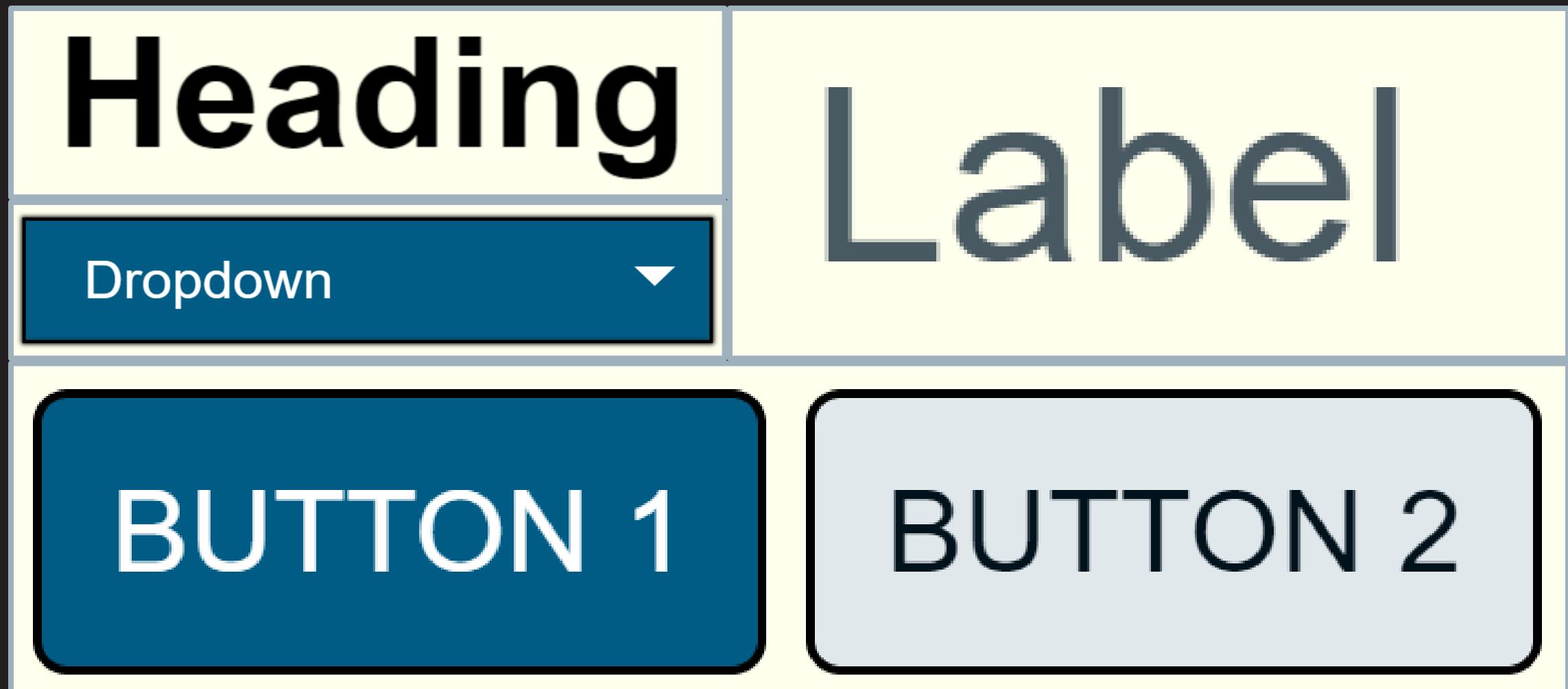
Horizon

Horizon 1	Horizon 2	Horizon 3	Horizon 4	Horizon 5
#FCBC00 00.29.100.00 PMS 143/c RGB 252.188.00	#EF7D00 00.60.100.00 PMS 158 RGB 239.125.00	#E73037 00.91.76.00 PMS 179 RGB 231.48.55	#D5007F 11.100.00.00 PMS 214 RGB 213.00.127	#B03970 46.86.21.14 PMS 689 RGB 141.57.112

Web

Prussian	Shamrock	Coral
#002E3B Web only	#1E8765 Web only	#E73238 Web only

Example Atoms



Example Molecule

Heading

Label

Dropdown

BUTTON 1

BUTTON 2

Example Organism

Subject Selection

Choose your faculty

Arts and Humanities ▾

SUBMIT

CANCEL

Need help?

Templates and pages



Template



Subject Selection

Choose your faculty

Arts and Humanities ▾

SUBMIT

CANCEL

Need help?

Page

Component Guides

3.4 Breadcrumb §

A breadcrumb trail consists of a list of links to the parent pages of the current page in hierarchical order. It helps users find their place within a website or web application. Breadcrumbs are often placed horizontally before a page's main content.

Example §

[Breadcrumb design pattern example](#)

Keyboard Interaction §

Not applicable.

WAI-ARIA Roles, States, and Properties §

- Breadcrumb trail is contained within a navigation landmark region.
- The landmark region is labelled via [aria-label](#) or [aria-labelledby](#).
- The link to the current page has [aria-current](#) set to [page](#). If the element representing the current page is not a link, aria-current is optional.

TABLE OF CONTENTS

1.	Introduction
2.	Read Me First
2.1	No ARIA is better than Bad ARIA
2.2	Browser and Assistive Technology Support
2.3	Mobile and Touch Support
3.	Design Patterns and Widgets
3.1	Accordion (Sections With Show/Hide Functionality)
3.2	Alert
3.3	Alert and Message Dialogs
3.4	Breadcrumb
3.5	Button
3.6	Carousel (Slide Show or Image Rotator)
3.7	Checkbox
3.8	Combobox
3.9	Dialog (Modal)
3.10	Disclosure (Show/Hide)
3.11	Feed
3.12	Grids : Interactive Tabular Data and Layout Containers

WAI-ARIA Authoring Practices 1.2

W3C Working Draft 18 December 2019



This version:

<https://www.w3.org/TR/2019/WD-wai-aria-practices-1.2-20191218/>

Latest published version:

<https://www.w3.org/TR/wai-aria-practices-1.2/>

Latest editor's draft:

<https://w3c.github.io/aria-practices/>

Previous version:

<https://www.w3.org/TR/2018/WD-wai-aria-practices-1.2-20181218/>

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Lisa Pappas (SAS) (Editor until October 2009)
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<https://www.w3.org/TR/wai-aria-practices-1.2>

Component Libraries

Inclusive Components

A blog trying to be a pattern library. All about designing inclusive web interfaces, piece by piece.



<https://inclusive-components.design/>

<https://bit.ly/3CwFqhd>

 DIGITAL A11Y ≡ Menu

You are here: [Home](#) / [Web Accessibility](#) / Accessible UI Component Libraries Roundup

Accessible UI Component Libraries Roundup

Last Modified: March 22, 2021 by [Raghavendra Satish Peri](#) — [6 Comments](#)

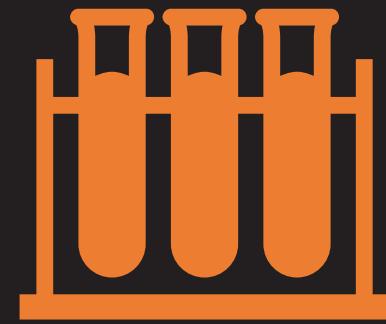
Here is a list of accessible UI components that you can use for your next project. Please do let me know if there are any resources that are missing & they will be added to list accordingly.

- [adobe-react-spectrum](#) A collection of libraries and tools that help you build adaptive, accessible, and robust user experiences.
- [Vuetensils](#)
A “naked” component library for building accessible, lightweight, on-brand applications.
- [SAPUI5 SDK](#)
UI5 applications benefit from a consistent design language and predefined UX patterns across all frontend features. Use a predefined theme or try our online theming tool to create a custom theme.

Benefits of using accessible, standard UI patterns and components

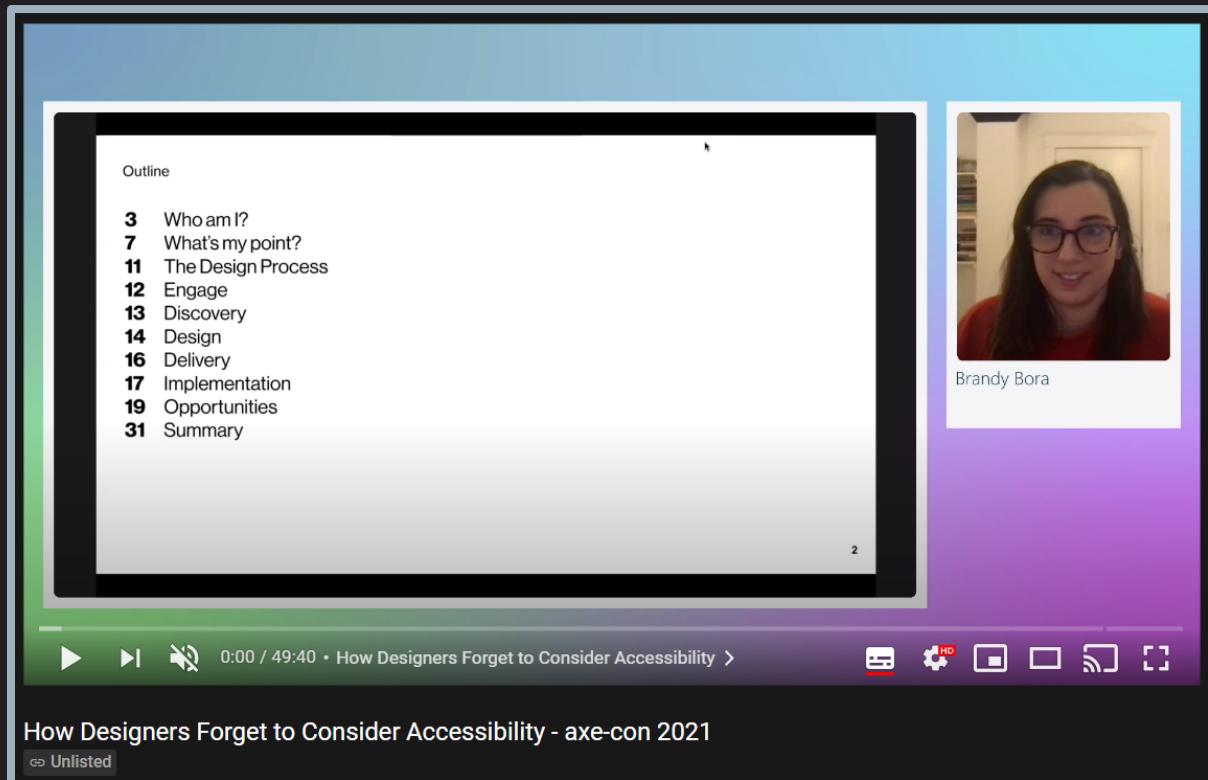


More efficient, and faster.



Accessibility work done already,
but still requires testing.

How designers forget to consider accessibility



Brandy Bora, Sr. Manager
of Design, Verizon

- Tactical, design-focused solutions to including accessibility within front-end design.

<https://www.youtube.com/watch?v=qqQeQdqsnAI>

How Verizon defines what they mean by accessibility

Example component definition

Form elements

Keep the forms simple, direct, and required.

- Forms must have a title and instructional text to orient the user.
- Any placeholder text must meet contrast guidelines and be instructional.
- All fields have labels.
- All fields have specific, descriptive errors.
- Screen level errors appear at the top and bottom of the screen or in persistent view.
- All fields are required. Optional fields are rare and called out with an asterisk.

Example brand guideline

Experiences work for users with limited vision.

“We design text, buttons and navigational elements to the colour contrast ratio of 4.5:1 and use visual indicators with interactive elements.”

Practice: Communicate Intent with Accessibility Design Annotation

GOAL: Communicate all of the necessary accessibility design intent to the team so that designs can be turned into accessible applications, and this accessibility can be tested and validated efficiently.

PRACTICE DESCRIPTION: Train all team members to expect user experience and user interface designers to provide them with all the following information for a new or modified user interface design:

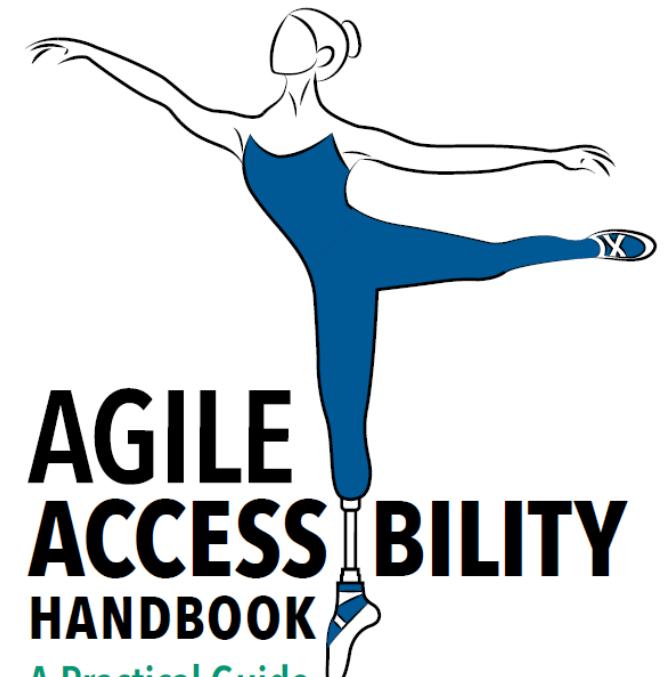
- ✓ The role of every element in the user interface, whether interactive or not. This includes communicating the role of regions of information and groups of controls. For example, if your design has a group of navigational controls at the top and some information in the footer, indicate where the main content begins and ends, then mark this up in a wireframe or design comp so that everyone knows what those regions are;
- ✓ The states that every user interface element can take on and the text description of those states. For example, if your application has an order workflow with many steps, ensure that the states for the future steps, the current step, and the completed steps are identified and described;
- ✓ All of the discrete values that the elements can take on and the text description of those values. For example, if a section of the user interface can be expanded and collapsed, describe these different states in text;
- ✓ The name of every element, region, or group of controls in the user interface. For example, if your interface has a main section of content and then some supplemental content, identify the content regions and describe them in text;
- ✓ A complete description of the interaction for each interactive element and its surrounding elements, including all inputs for all supported devices and how this affects the focus, the states, and the values of the interactive element and related elements;
- ✓ The intended order in which elements should be encountered and read on the page (reading order/focus order); and
- ✓ The minimum sizes of all interactive elements at all device or browser sizes.

Practice: Communicate Intent with Accessibility Design Annotation

Goal:

Communicate all of the necessary accessibility design intent to the team so that designs can be turned into accessible applications, and this accessibility can be tested and validated efficiently.

DYLAN BARRELL

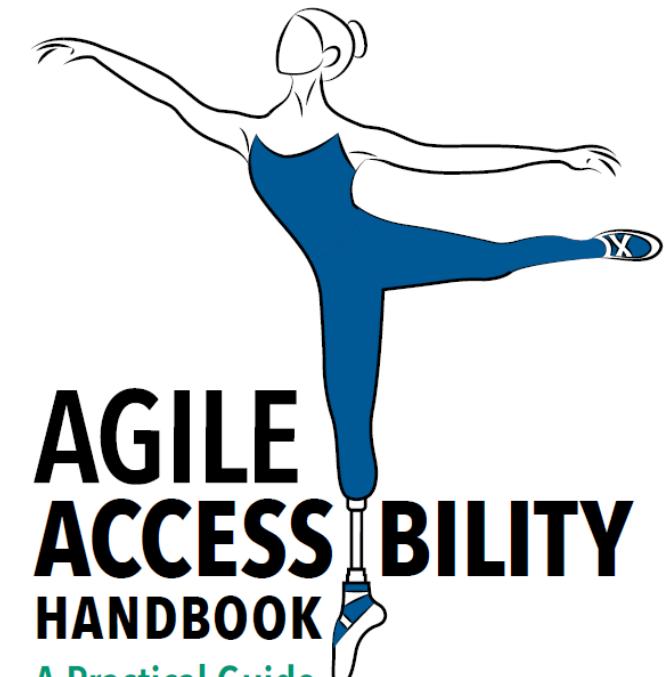


Practice: Communicate Intent with Accessibility Design Annotation

Practice Description:

Train all team members to expect user experience and user interface designers to provide them with all the following information for a new or modified user interface design:

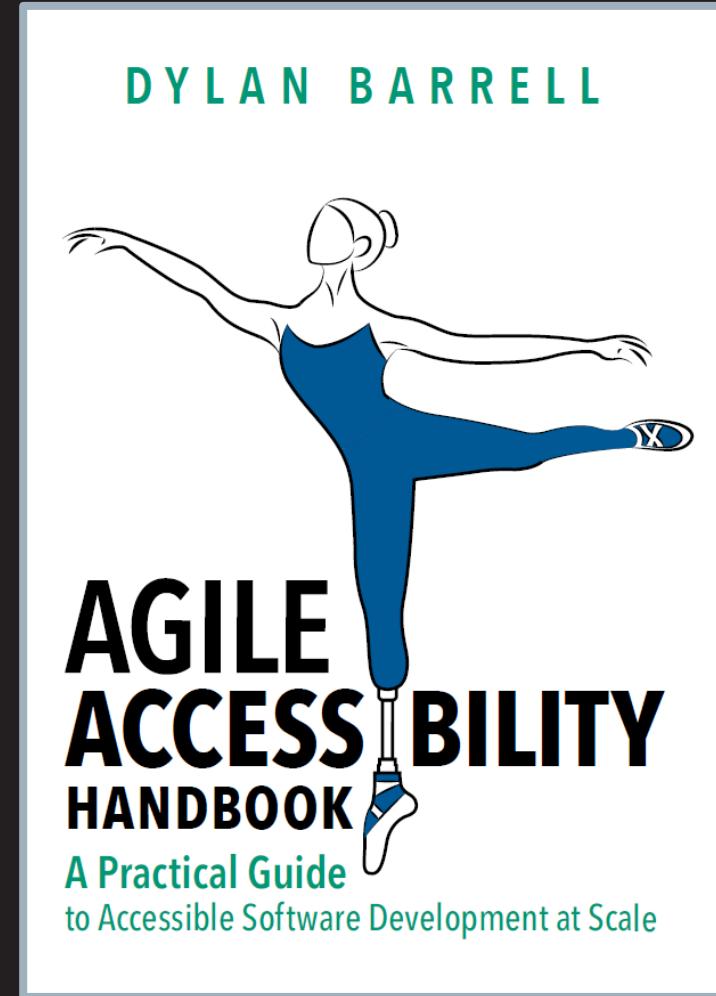
DYLAN BARRELL



Practice: Communicate Intent with Accessibility Design Annotation

Practice Description:

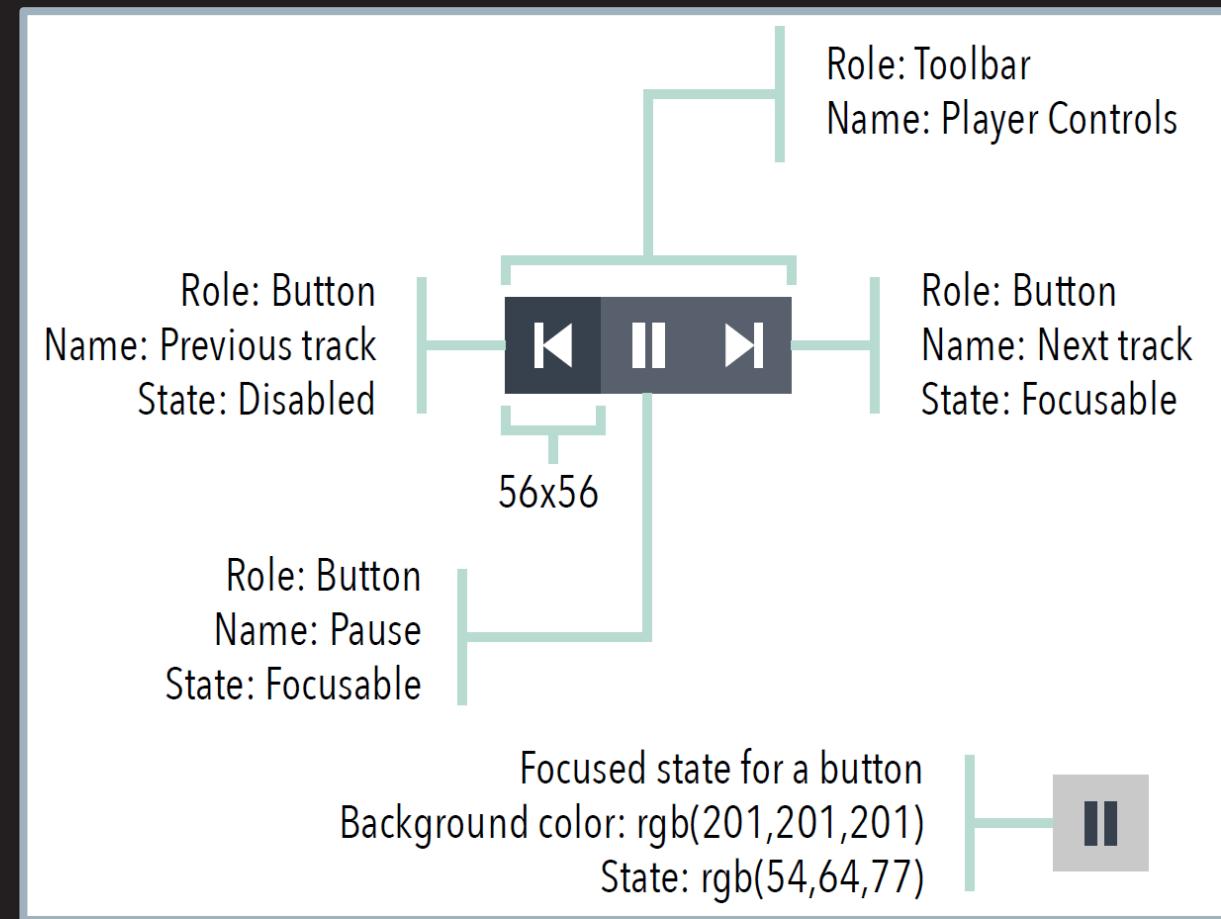
Train all team members to expect user experience and user interface designers to provide them with all the following information for a new or modified user interface design:



Communicating Intent with Accessibility Design Annotation

Interaction for the role=button

- Keyboard SPACE or ENTER equals click
- Disabled buttons cannot receive focus
- Disabled buttons do not respond to a click/touch

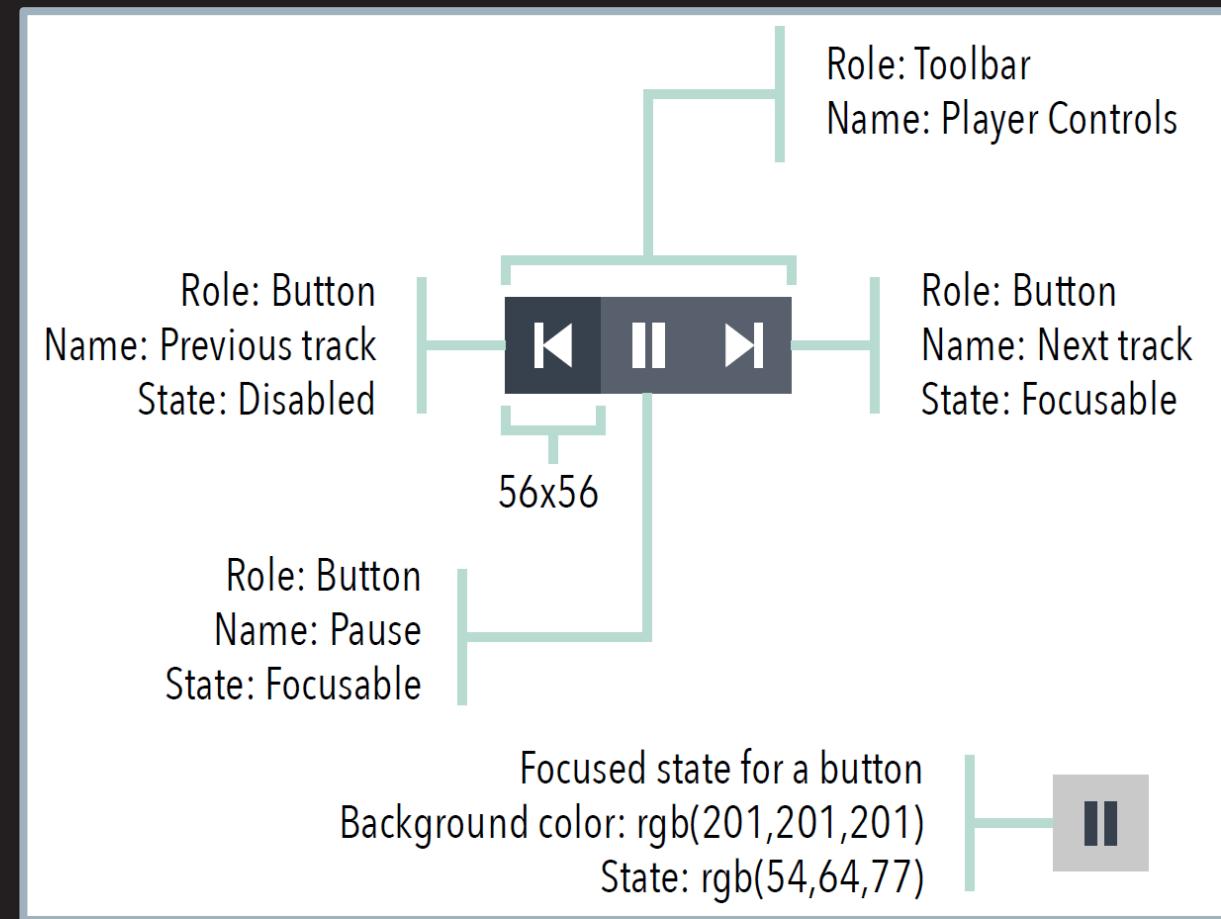


Source: Agile Accessibility Handbook

Communicating Intent with Accessibility Design Annotation

Interaction for the entire component

- When on first track: disable “previous track” button
- When on last track: disable “next track” button and hide the “play” button
- When not playing: display the “play” button and hide the “pause” button
- After clicking “play,” place focus on the “pause” button
- After clicking “pause,” place focus on the “play” button



Annotating designs for Accessibility

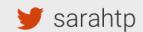


Annotating designs for accessibility

ID24 2021

Sarah Pulis

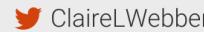
Director, Accessibility Services



sarahtp

Claire Webber

Digital Accessibility Consultant



Sarah Pulis and Claire
Webber of Intopia

- Have shared their accessibility annotation library for use in Figma

<https://www.youtube.com/watch?v=Y35jmpS8lQM>

Annotating designs for Accessibility

Tab order

1 →

2 10 May 2021

1 Pig and Pepper

3 →| Alice 4 →| Wonderland 5 →| Pig

Reading order

1

6 While the Duchess sang the second verse of the song, she kept tossing the baby violently up and down, and the poor little thing howled so, that Alice could hardly hear the words. I speak severely to my boy, I beat him when he sneezes.

7 →| Sing with the Duchess >

2 Date is ordered after card heading to assist users navigating by headings

The screenshot shows a web page with various annotations. At the top left, under 'Tab order', there is a blue button labeled '1 →'. Below it, a blue circle contains the number '2' next to the text '10 May 2021'. Another blue circle contains '1' next to the title 'Pig and Pepper'. A horizontal line connects three blue circles labeled '3 →| Alice', '4 →| Wonderland', and '5 →| Pig'. On the left, under 'Reading order', there is a blue circle containing '1'. Below it, a blue circle contains '6' next to a paragraph of text. At the bottom left, another blue circle contains '7' next to the text '→| Sing with the Duchess >'. At the bottom right, a callout box contains the text 'Date is ordered after card heading to assist users navigating by headings' with a small blue circle containing '2' to its left.

Marking up reading order
and tab order.

Annotating designs for Accessibility

H2 Alice's Adventures in Wonderland

H3 ⊖ Down the Rabbit-Hole

Alice was beginning to get very tired of sitting by her sister on the bank, and of having nothing to do: once or twice she had peeped into the book her sister was reading, but it had no pictures or conversations in it, "and what is the use of a book," thought Alice "without pictures or conversations?"

H3 ⊕ The Pool of Tears

H3 ⊕ A Caucus-Race and a Long Tale

H3 ⊕ The Rabbit Sends in a Little Bill

1

1

Accordions

Role: Button

State: Expanded/Collapsed

1

Accordions

Role: Button

State: Expanded/Collapsed

Screen reader output: heading level, role, name, state

Voice input: name, role



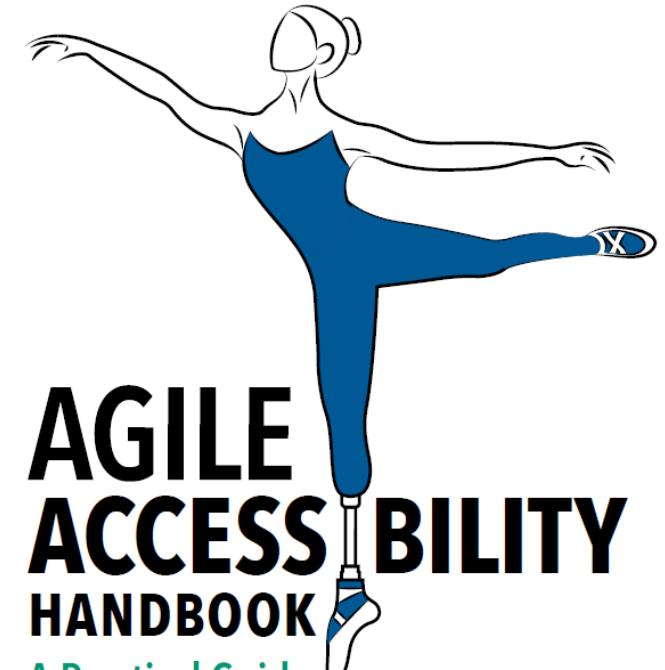
Marking up headings and component behaviour.

Practice: Create a User Interface Pattern Library

Goal:

Leverage accessible interaction designs, mark-up, and implementations across a large number of development teams while maintaining flexibility of implementation and look.

DYLAN BARRELL



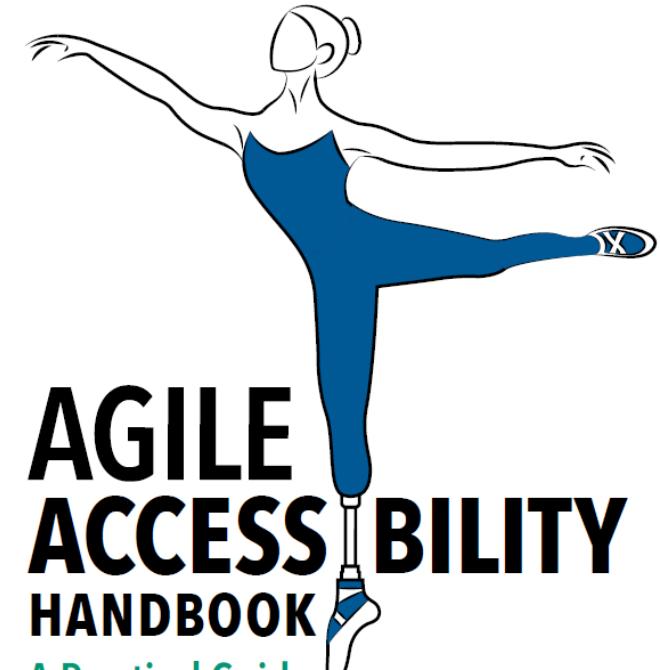
Practice: Create a User Interface Pattern Library

Practice Description:

Making applications accessible consists of paying attention to four high-level aspects of user interface design and implementation.

- ✓ The colour, font, iconography, and layout design choices that represent the roles, states, and values of the user interface elements across viewport sizes—the look;
- ✓ The mark-up used to represent the names, roles, values, and states of the user interface elements—the mark-up;
- ✓ The multi-input device interaction designs of the user interface components—the interaction; and
- ✓ The implementation of the interactions and generation of the UI content—the implementation.

DYLAN BARRELL

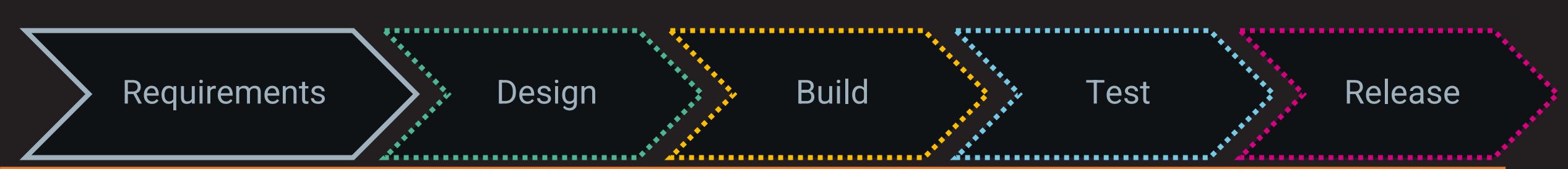


**AGILE
ACCESSIBILITY
HANDBOOK**

A Practical Guide
to Accessible Software Development at Scale

How can we ensure accessibility is considered from the beginning?





Requirements

Design

Build

Test

Release

- Include accessibility within project documentation.
- Non Functional Requirements.
- Accessible procurement



Shift left

How can we add accessibility into projects? 1



Add accessibility section
to project brief, and
business case
documents.

How can we add accessibility into projects? 2



Add accessibility section
to project brief, and
business case
documents.



Specify the production /
updating of an
accessibility statement
as a deliverable.

How can we add accessibility into projects? 5



Add accessibility section to project brief, and business case documents.



Specify the production / updating of an accessibility statement as a deliverable.



Create a standard work-package for the creation of accessibility statements.

Accessibility and procurement



Procurement 1

- Require vendors to produce an Accessibility Conformant Report (ACR) for their product based on the Voluntary Product Accessibility Template (VPAT).
- Ask about their accessibility roadmap.
- Lobby current providers to improve accessibility and provide updates to their ACRs as products are upgraded.

Procurement

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- Ask about their accessibility roadmap.
- Lobby current providers to improve accessibility and provide updates to their ACRs as products are upgraded.

What does an ACR / VPAT look like?

Criteria	Conformance level	Remarks and explanations
<u>1.1.1 Non-text Content</u>	Partially supports	<p>The Blackboard Original Learn 9.1 web application provides text alternatives for most non-text items, with some exceptions:</p> <ul style="list-style-type: none">• Some images lack a text alternative.• Some images have an inadequate text alternative.• Some decorative images are not hidden from assistive technologies.
<u>1.3.3 Sensory Characteristics</u>	Supports	The Blackboard Original Learn 9.1 web application does not rely on sensory characteristics for instructions.
<u>2.1.4 Character Key Shortcuts</u>	Not applicable	The Blackboard Original Learn 9.1 web application does not have single-letter character key shortcuts.

Accessibility Tips

5 key accessibility questions to ask when buying digital tools, sites or apps



Hassel Inclusion Poster (PDF)

Non Functional Requirement for Cloud-based services

Sub-Category	Requirement Description	Priority
Web accessibility	<p>The solution complies with (or can be deployed to comply with) WCAG 2.0 AA and BS 8878:2010</p>	Mandatory

What can happen when we customise commercial systems?

'Out of the box'
colour scheme.
Focus indicator
has AAA level
contrast
(7.36:1)

Course Management

- ▼ **Control Panel**
- ▶ Content Collection
- ▶ Course Tools
- ▶ Evaluation
- ▶ Grade Center
- ▶ Users and Groups
- ▶ Customization
- ▶ Packages and Utilities
- ▶ Help

'Marine 1'
colour for
background.

Unchanged
focus indicator
would fail
2.4.12 Focus
Appearance
(Enhanced)
(4.17:1)

Course Management

- ▼ **Control Panel**
- ▶ Content Collection
- ▶ Course Tools
- ▶ Evaluation
- ▶ Grade Center
- ▶ Users and Groups
- ▶ Customization
- ▶ Packages and Utilities
- ▶ Help

Requirements

Design

Build

Test

Release

- Accessibility statement as part of go-live checklist.
- Accessibility testing as part of Change Management.
- Dashboards.
- Review accessibility statements annually.

Shift left

Including accessibility in the release process

- Include the creation and publication of an accessibility statement within the “go-live checklist”.
- Set date and ownership for reviewing the accessibility statement on an annual basis.

Accessibility Statement



Including accessibility in the release process

- Include the creation and publication of an accessibility statement within the “go-live checklist”.
- Set date and ownership for reviewing the accessibility statement on an annual basis.

Accessibility Statement



Including accessibility in the release process (1)

- Add accessibility testing into the RFC template.
- When creating an RFC add step for checking if accessibility statement requires an update.

All Templates	
	Filter Templates
Emergency RFC - Immediate or Retrospective	Edit
Go Live RFC - Minimum 14 working days notice	Edit
Minor Emergency RFC - Immediate or Retrospective	Edit
Minor Normal RFC - Minimum 2 working days notice	Edit
Normal RFC - Minimum 4 working days notice	Edit
Standard RFC - Implement once approved	Edit

Including accessibility in the release process

- Add accessibility testing into the RFC template.
- When creating an RFC add step for checking if accessibility statement requires an update.

All Templates	
<input type="button"/> Filter Templates	
Emergency RFC - Immediate or Retrospective	Edit
Go Live RFC - Minimum 14 working days notice	Edit
Minor Emergency RFC - Immediate or Retrospective	Edit
Minor Normal RFC - Minimum 2 working days notice	Edit
Normal RFC - Minimum 4 working days notice	Edit
Standard RFC - Implement once approved	Edit

Including accessibility in the release process

- Add section to project closure / lessons learned reports?
- Include accessibility within benefits realisation reviews?

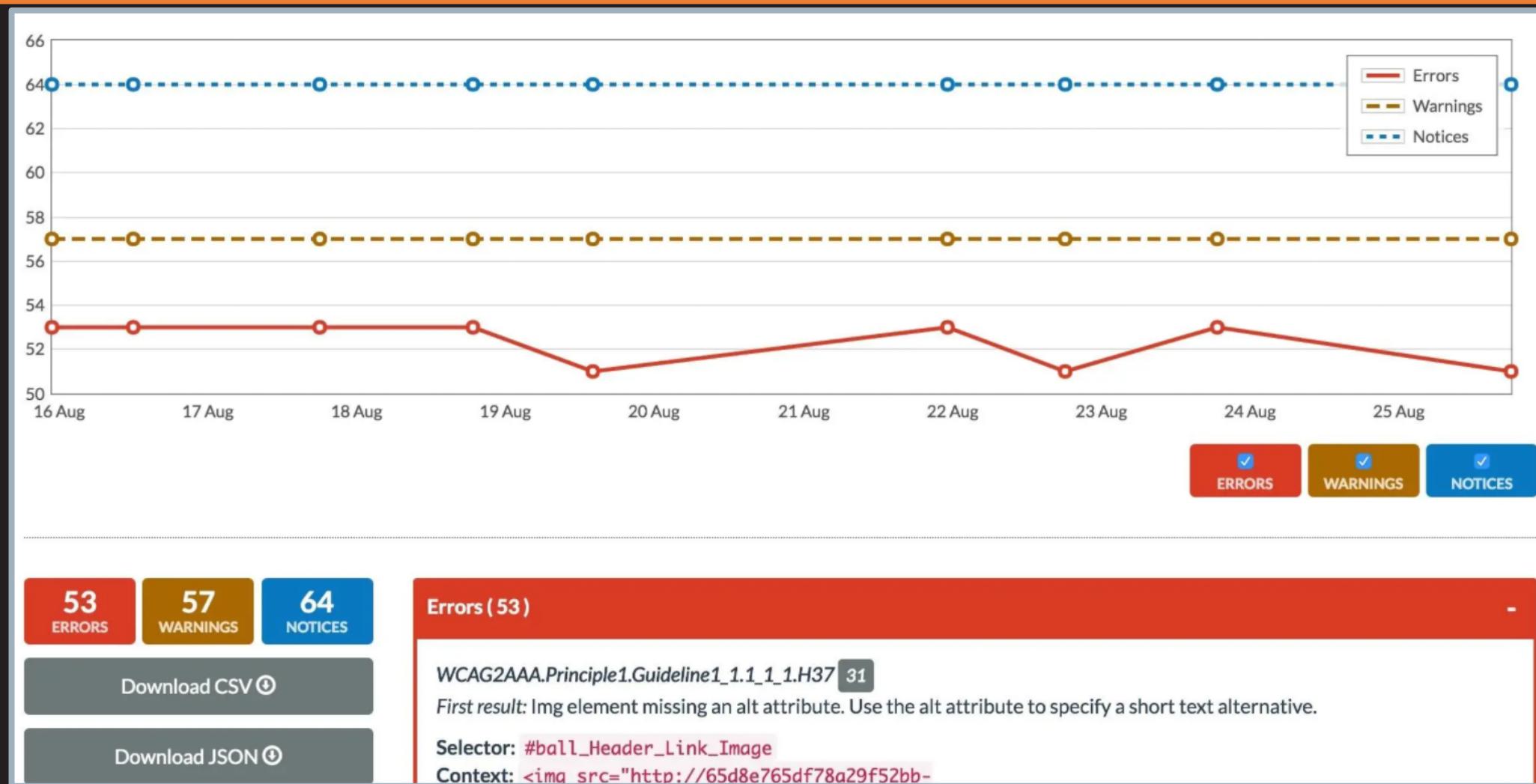


Including accessibility in the release process

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Accessibility Dashboards

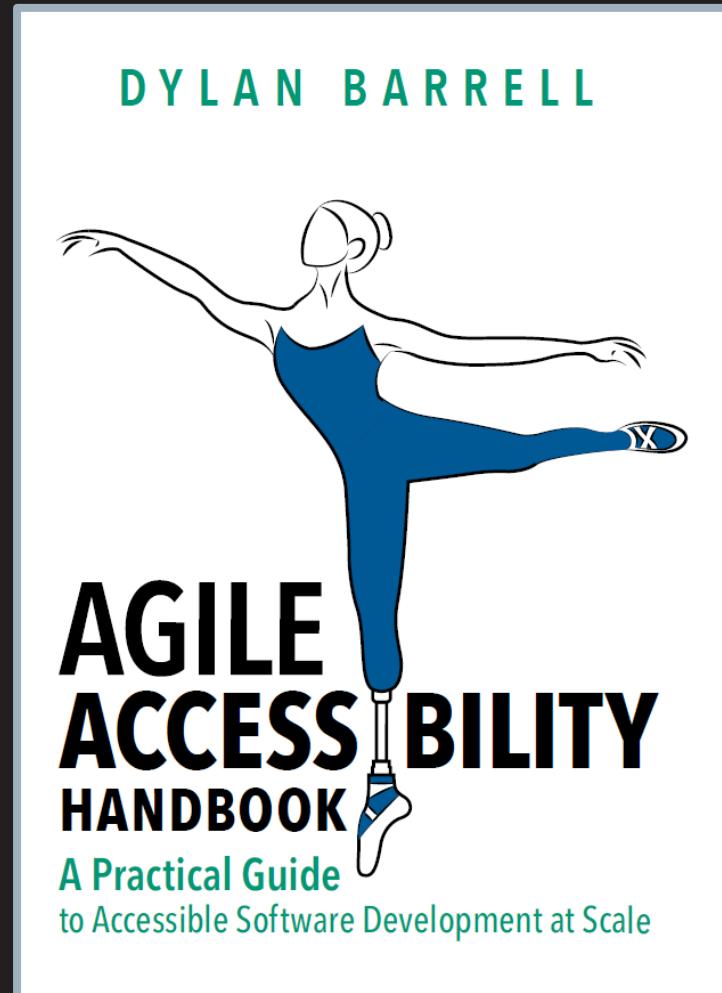


Accessibility Dashboards

- Monitoring Web Accessibility Compliance With Pa11y Dashboard
- Setting up an Accessibility Dashboard from Scratch with Pa11y
- A11ygato – accessibility dashboard for website monitoring



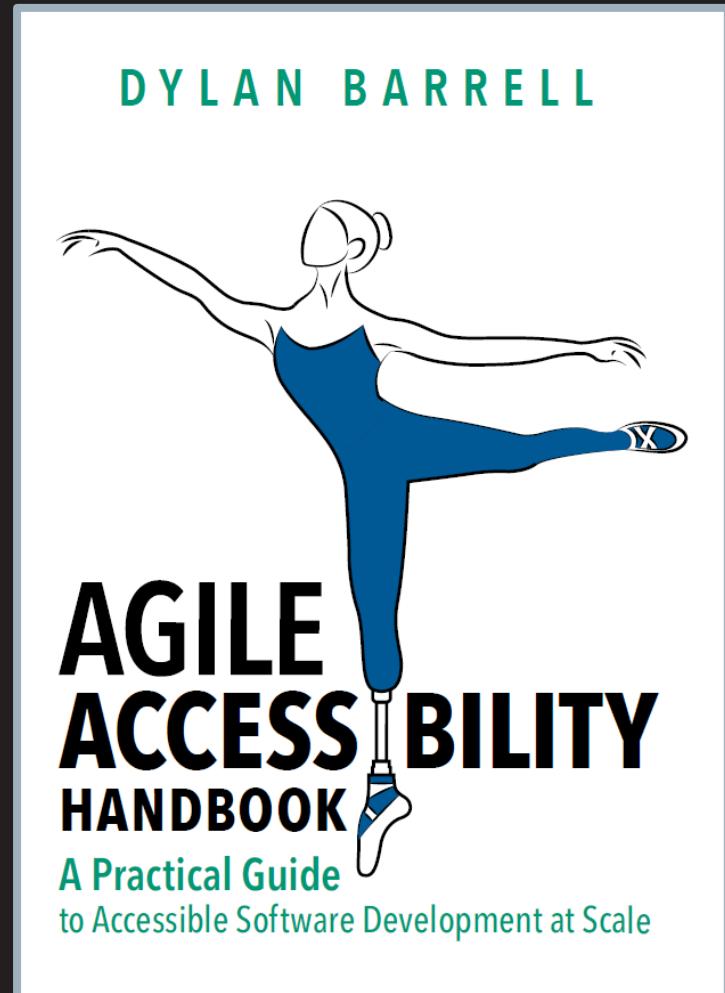
Recommended Practices



Transformation Practices

- Create a Central Accessibility Team
- Obtain Executive Buy-In
- Create and Enforce an Accessibility Policy
- Report on Your Accessibility Transformation
- Give the Teams Accessibility Coaches
- Execute on an Ongoing Empathy Campaign
- Publish Learning Resources and Bulletins

Recommended Practices 2



Team Practices

- Attend and Host Empathy Events
- Include Disabilities in UX Design
- Communicate Intent with Accessibility Design Annotation
- Create a User Interface Pattern Library
- Leverage an Accessibility Automation Library
- Automate Device and Assistive Technology Testing
- Manage Accessibility Defects Systematically
- Measure Accessibility
- Include Accessibility in Retrospectives and Sprint Planning

Requirements

Design

Build

Test

Release

“Make sure it's
accessible”

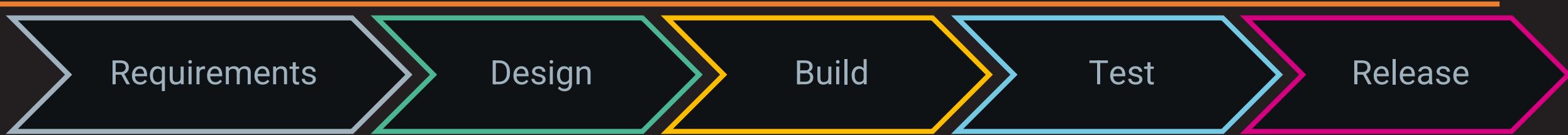
Use whatever
techniques you
prefer.

“Test that it's
accessible.”

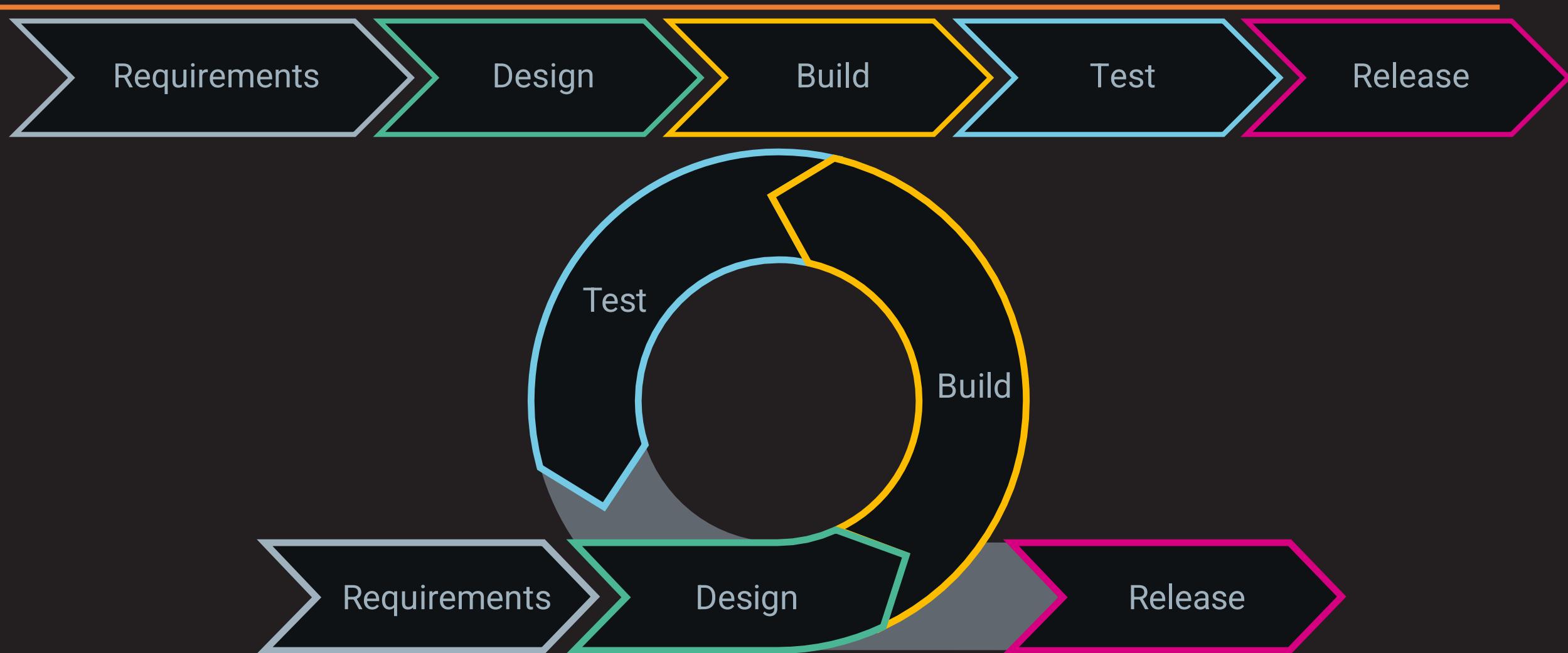
“Only release
when it's
accessible”



Waterfall?



Waterfall / Agile



Individuals and Interactions Over Processes and Tools



Cooperation between people participating in design and implementation.

User-centred design through partnership with users for design and testing.



Working software over comprehensive documentation



Deliver wireframes, prototypes, product increments, with accessibility in mind.

Accessibility within the Definition of Done.

Responding to change over following a plan

Use of semantic elements reduces technical debt and the need to refactor.



Following the accessibility principle of Robust aids with compatibility with user-agents not yet created.

The art of maximizing the amount of work not done

```
<div id="divButton" class="button" onclick="doAction();"  
tabindex="0" role="button">Select Me</div>  
  
function doAction() {  
    alert("Hello!");  
}  
  
const button = document.getElementById('divButton');  
  
button.addEventListener('click', () => {});  
button.addEventListener('keydown', (event) => {  
    if (event.code === 'Space' || event.code ===  
'Enter') {  
        button.click();  
    }  
});
```

Not using semantic HTML

```
<button onclick="doAction();">Select Me</button>  
  
function doAction() {  
    alert("Hello!");  
}
```

Using semantic HTML

[Example on CodePen](#)

Pair programming



Mark Steadman
@Steady5063

Been seeing a lot on pair programming lately. From an **#Accessibility** standpoint, the best thing a **#webdev** can do is sit with an **#a11y** expert and build a component together! So much knowledge and skills can be transferred just from that alone! I do it a lot and it works wonders!

1:10 pm · 19 Aug 2021 · Twitter for iPhone

14 Retweets 3 Quote Tweets 46 Likes



Behaviour Driven Development

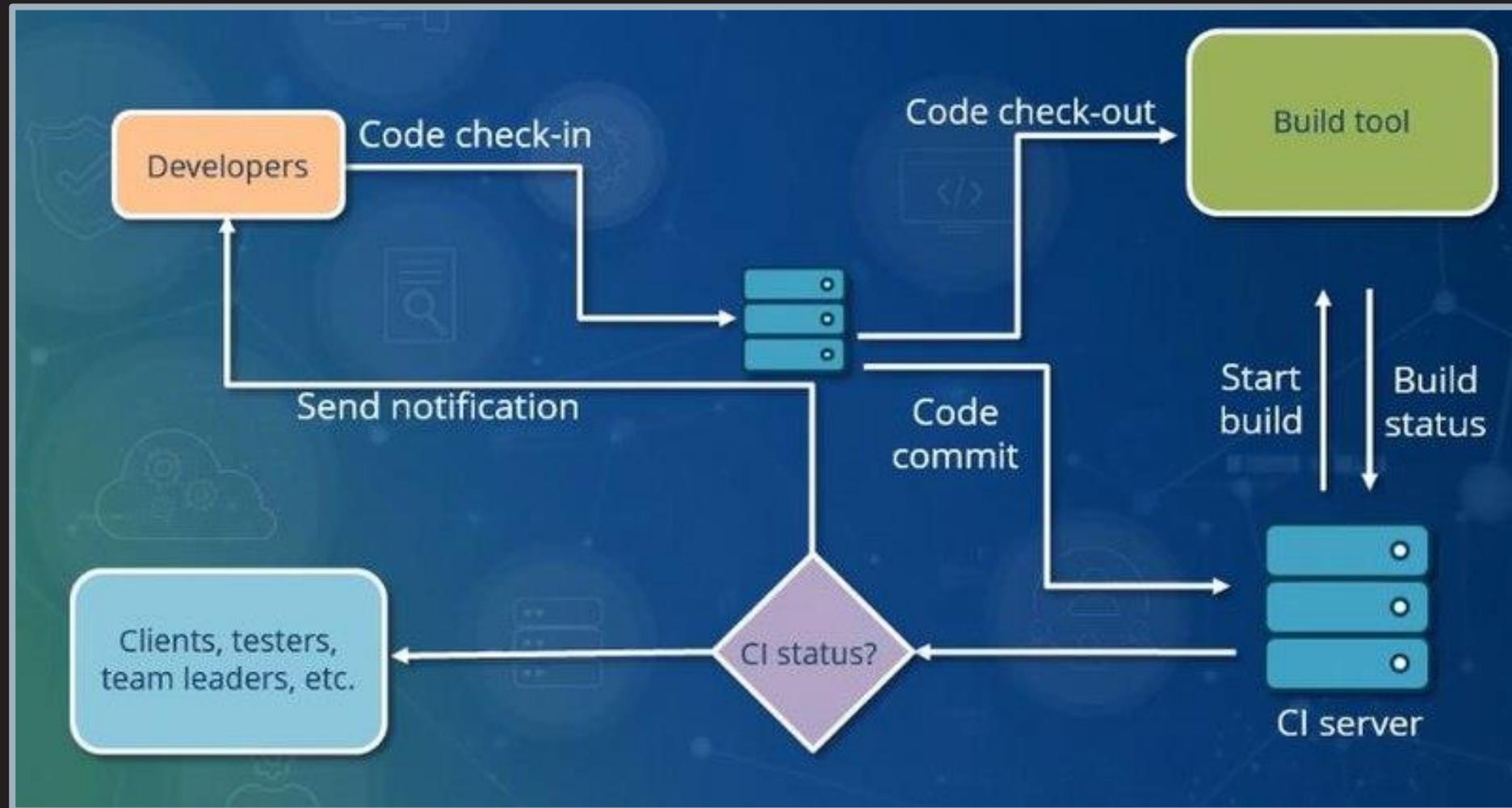
Scenario: A sighted keyboard-only user with a motor disability can operate an interface by only using a keyboard.*

- **Given** I am a sighted keyboard-only user with a user disability
- **When** I navigate the page with the TAB key forwards and backwards
- **Then** all interactive objects receive focus
- **And** all interactive objects are operable
- **And** all interactive objects receive focus in a logical order
- **And** I can always visually tell what element has focus

Scenario: A screen reader user is aware of textbox behaviour and can operate a text box.*

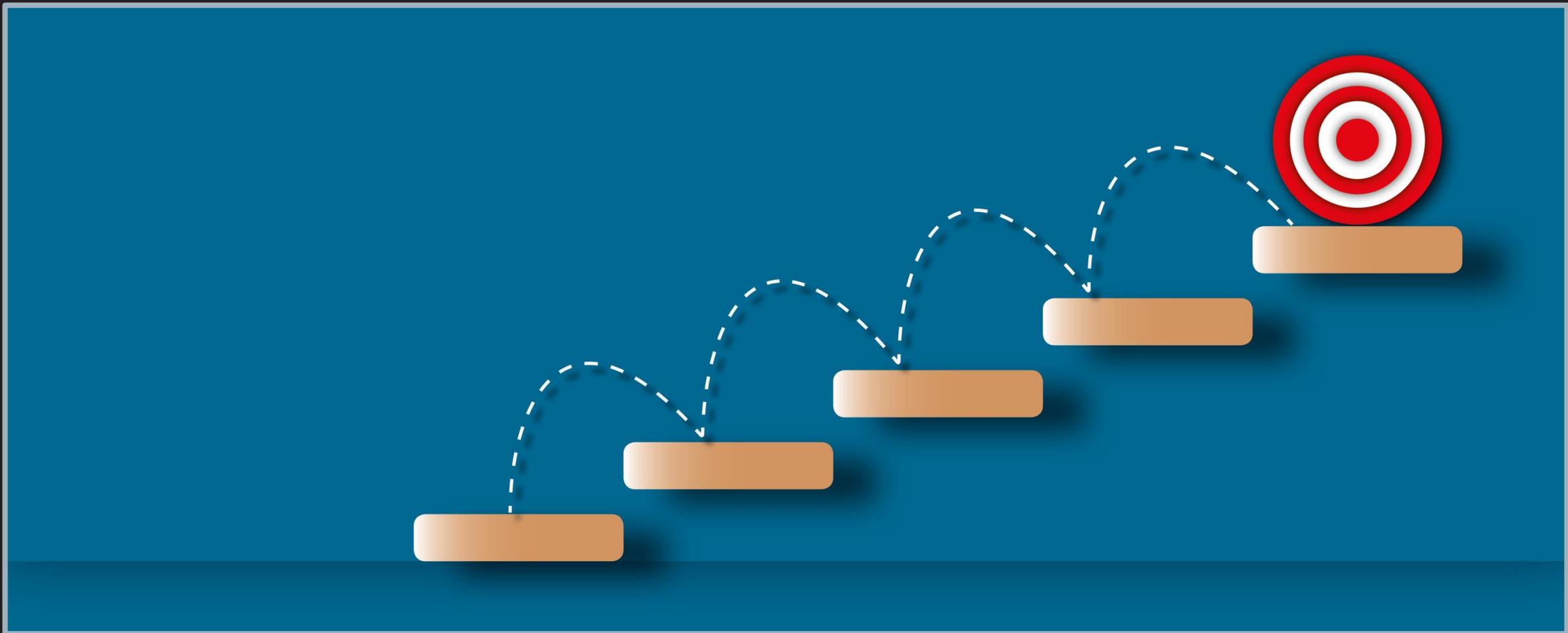
- **Given** I am a screen reader user
- **And** the page contains text input
- **When** I navigate to "{text}"
- **Then** I hear its label with any helper text, error text, and warning text
- **And** I hear the edit role (or similar)
- **And** I can hear its current value (if it has one)

Continuous integration and test automation



Pratik89Roy
CC BY-SA 4.0

Definition of Done



DoD Example 1

- [] The feature is accessible for our audience
- [] All unit/system tests pass
- [] The review procedure has been completed (little and often commits to master with the chat told that a commit has been made)
- [] Documentation updated or is non applicable
- [] Acceptance criteria met

DoD Example 2: Role-based

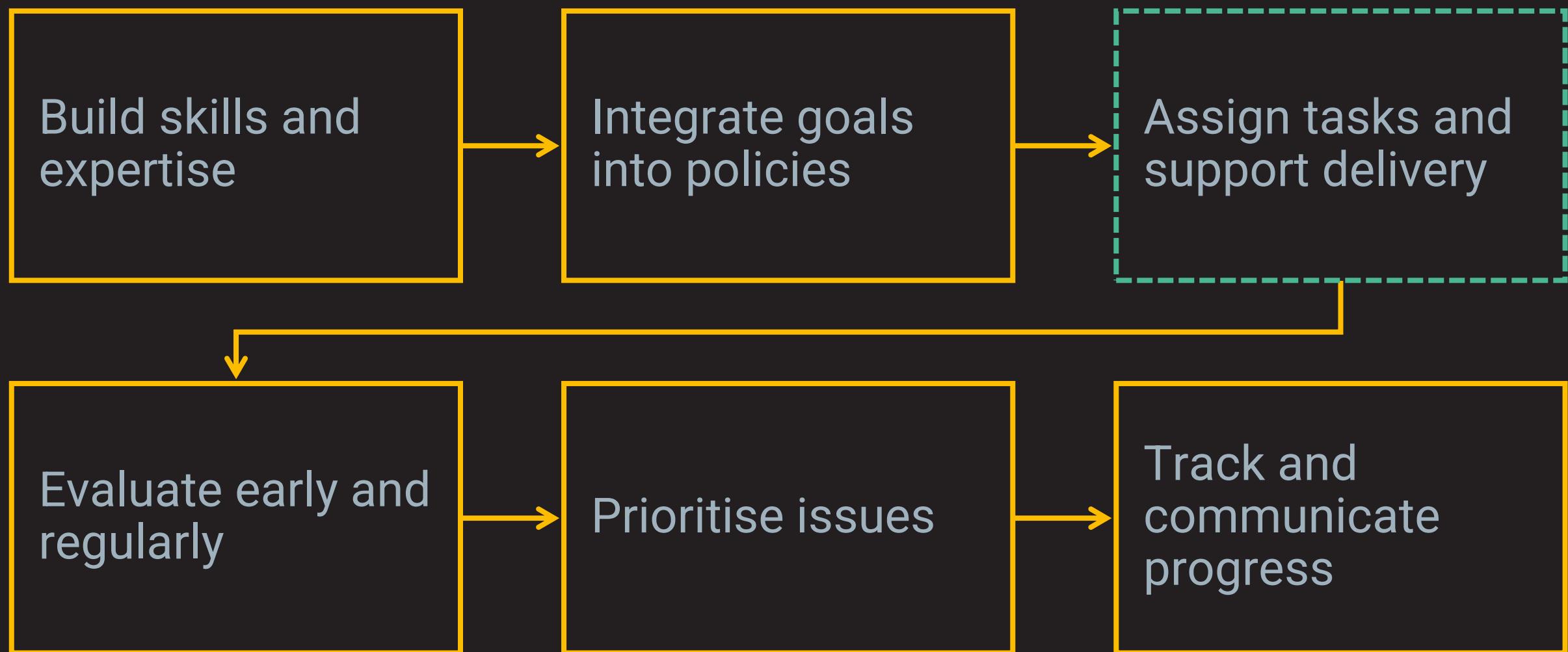
Content creator

- ✓ My content is written in plain language.
- ✓ My content is clear and concise.
- ✓ My content provides a blank alt text for decorative images.
- ✓ My content provides brief, accurate descriptions for informative images.
- ✓ ...

Developer

- ✓ My code uses semantic elements/tags wherever possible.
- ✓ My code contains logical structure that can be programmatically determined.
- ✓ My code has all interactive elements accessible using TAB and include an outline.
- ✓ My code allows for screen readers to read the content in a logical order and meaningful sequence.
- ✓ ...

Assign tasks and support delivery



Assign tasks and support delivery

Assign tasks according to the set objectives and identified responsibilities.

Track progress on the tasks and provide support where needed.



Assign tasks and support delivery



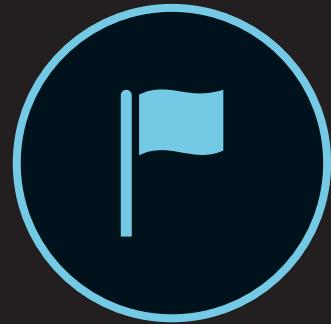
Communicate deliverables to teams.



Ensure all understand and are capable.



Schedules, time, and resources in place.



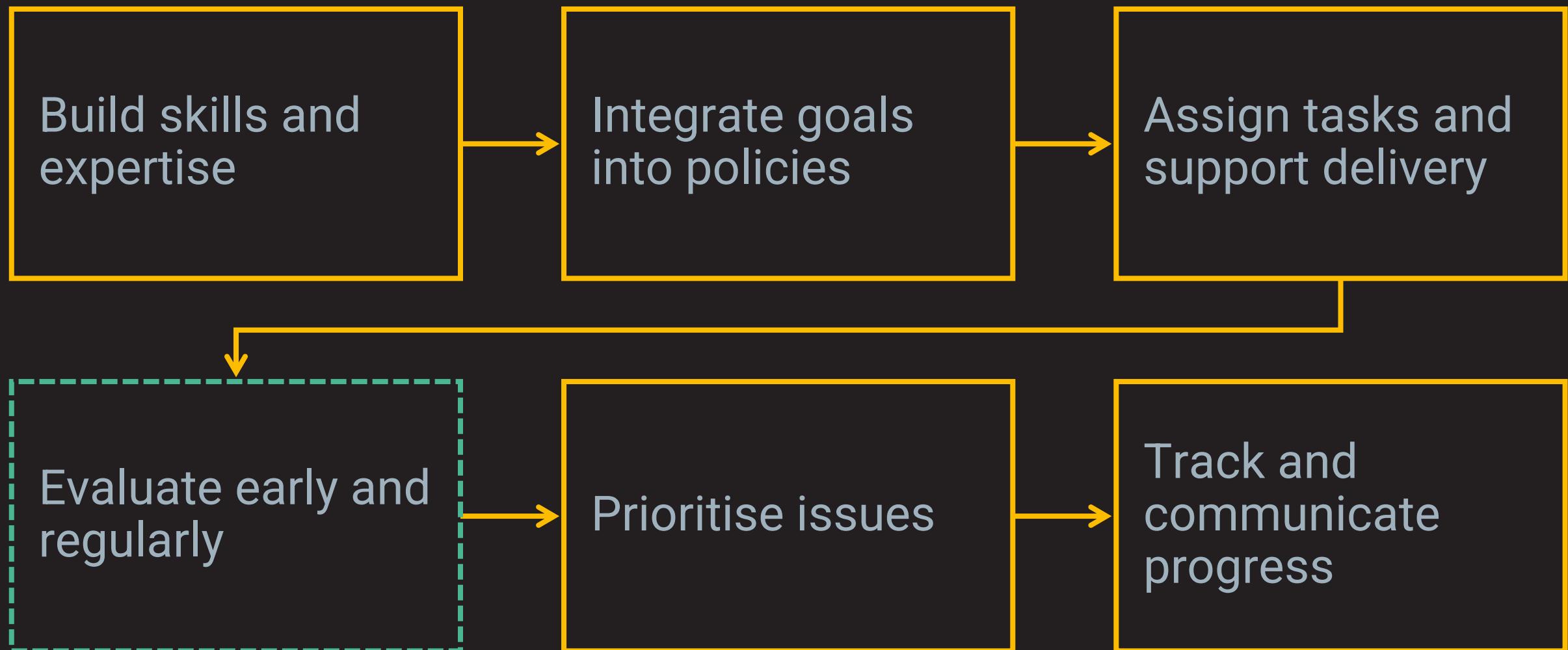
Process for flagging issues and managing them.

Consider an IT accessibility task force

- Meets regularly
- Coordinates and verifies progress among teams.



Evaluate early and regularly



Evaluate early and regularly



Evaluate early for accessibility in design and development, particularly at key milestones and sprints.



Early evaluation helps to prevent issues before significant work takes place.



Include input from users with disabilities wherever possible.

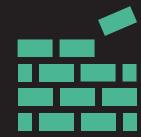


Use standard report structure for evaluations to allow for comparison. Log and track issues and defects.

Use resources effectively by addressing high impact, easy-to-resolve issues first.



Start with issues that are easier to fix: build motivation, demonstrate success.



Prioritise templates and components.



Prioritise visual design and accessible use of brand

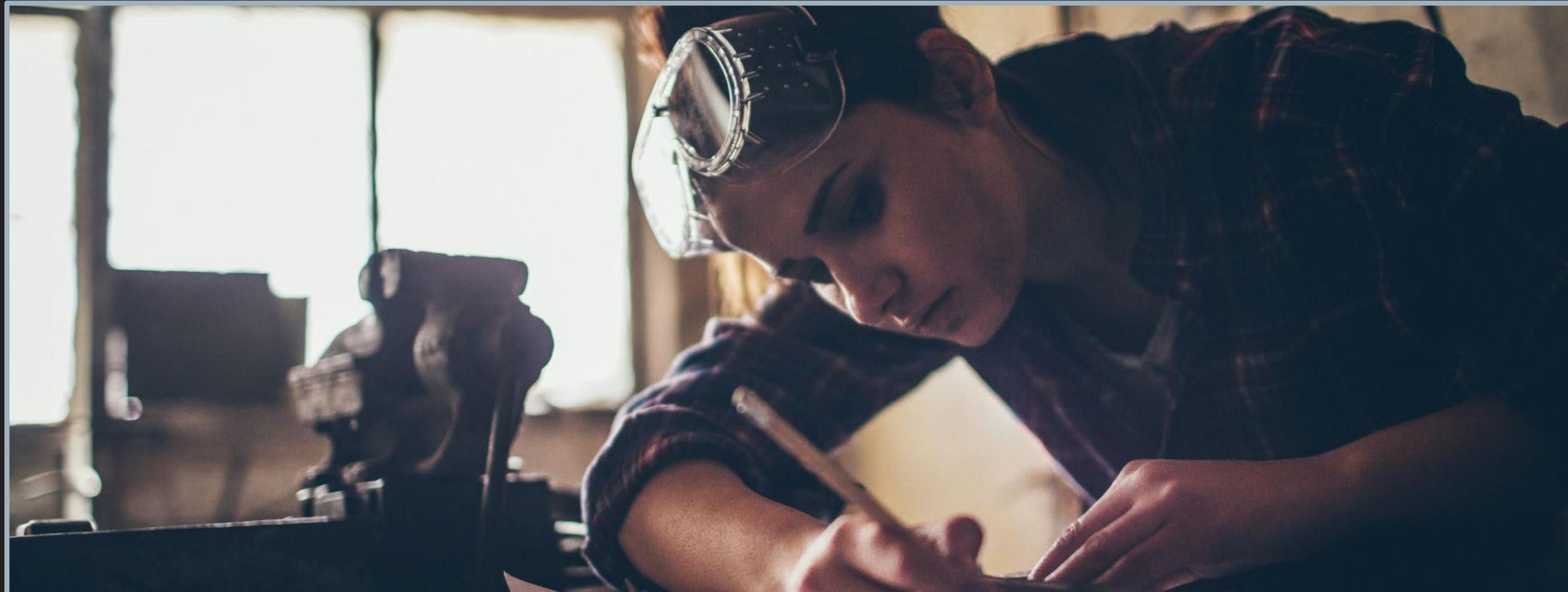


Prioritise procurement and recruitment policies.



Deprioritise issues related to systems you plan to retire.

How to prioritise issues?

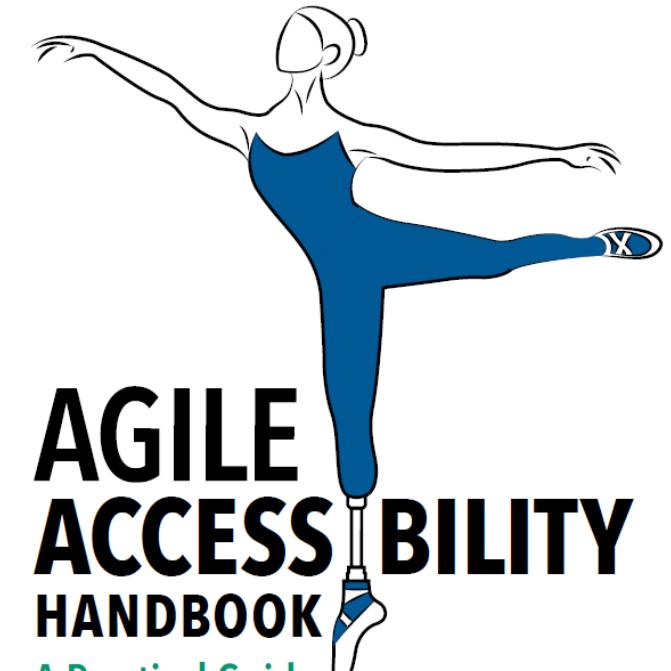


Practice: Manage Accessibility Defects Systematically

Goal:

- Implement an accessibility defect management policy that allows for the consistent prioritization of accessibility issues in ways that mirror the prioritization of other classes of defects
- Produce / maintain an accurate accessibility statement with each release in an agile manner.

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**AGILE
ACCESSIBILITY
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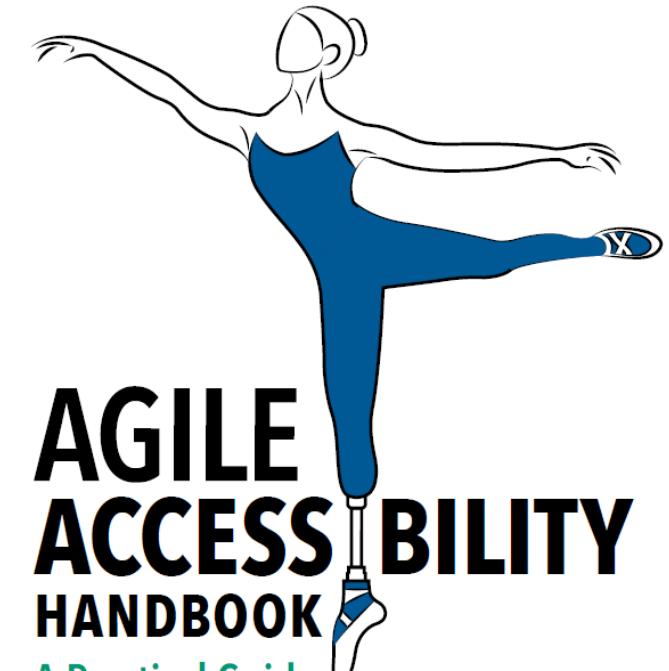
Practice: Manage Accessibility Defects Systematically

Practice description:

There are two components to this practice:

- ✓ Creating and implementing a way to evaluate the impact of an accessibility issue and assigning it a priority that matches the equivalent defect priority for other functional and non-functional defects; and
- ✓ Maintaining a defect management system where every accessibility defect is identifiable.

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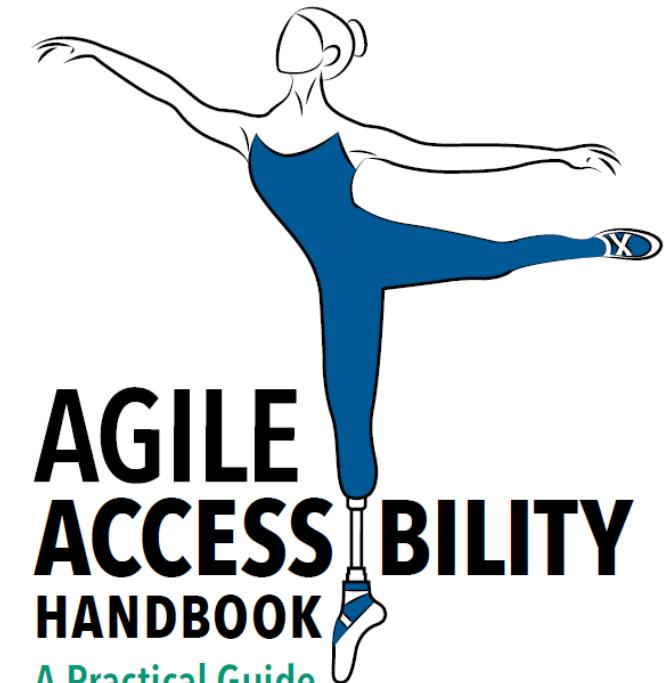


Practice: Manage Accessibility Defects Systematically

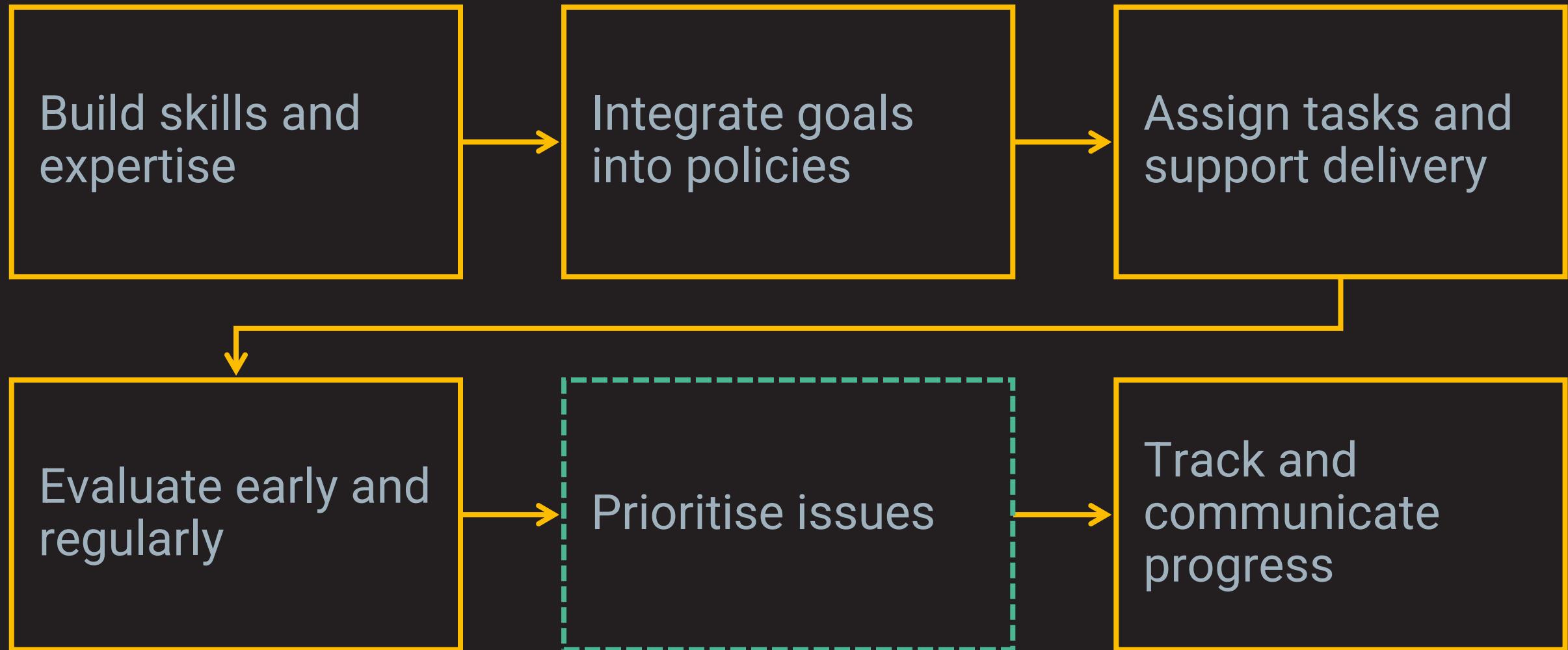
Not all accessibility defects are created equal:

- a missing alternative text for an image can be a blocker for a blind user if that image is part of an image button required to complete the main business flow of a Web application,
- or it could be a minor inconvenience if it is a social icon in the footer of the page. This should underpin the priority system assigned to any accessibility defect.

DYLAN BARRELL



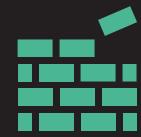
Prioritise issues



Use resources effectively by addressing high impact, easy-to-resolve issues first.



Start with issues that are easier to fix: build motivation, demonstrate success.



Prioritise templates and components.



Prioritise visual design and accessible use of brand

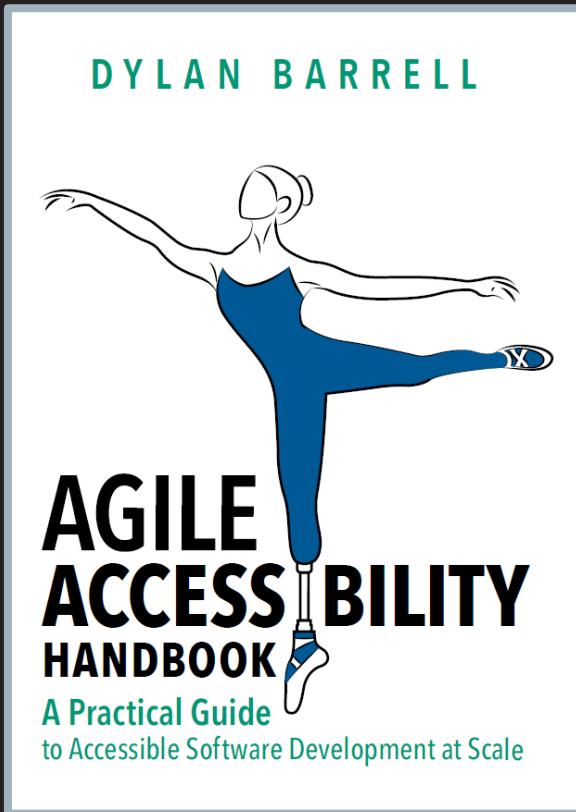


Prioritise procurement and recruitment policies.



Deprioritise issues related to systems you plan to retire.

Agile Accessibility Handbook



<https://accessibility.deque.com/agile-accessibility-handbook>

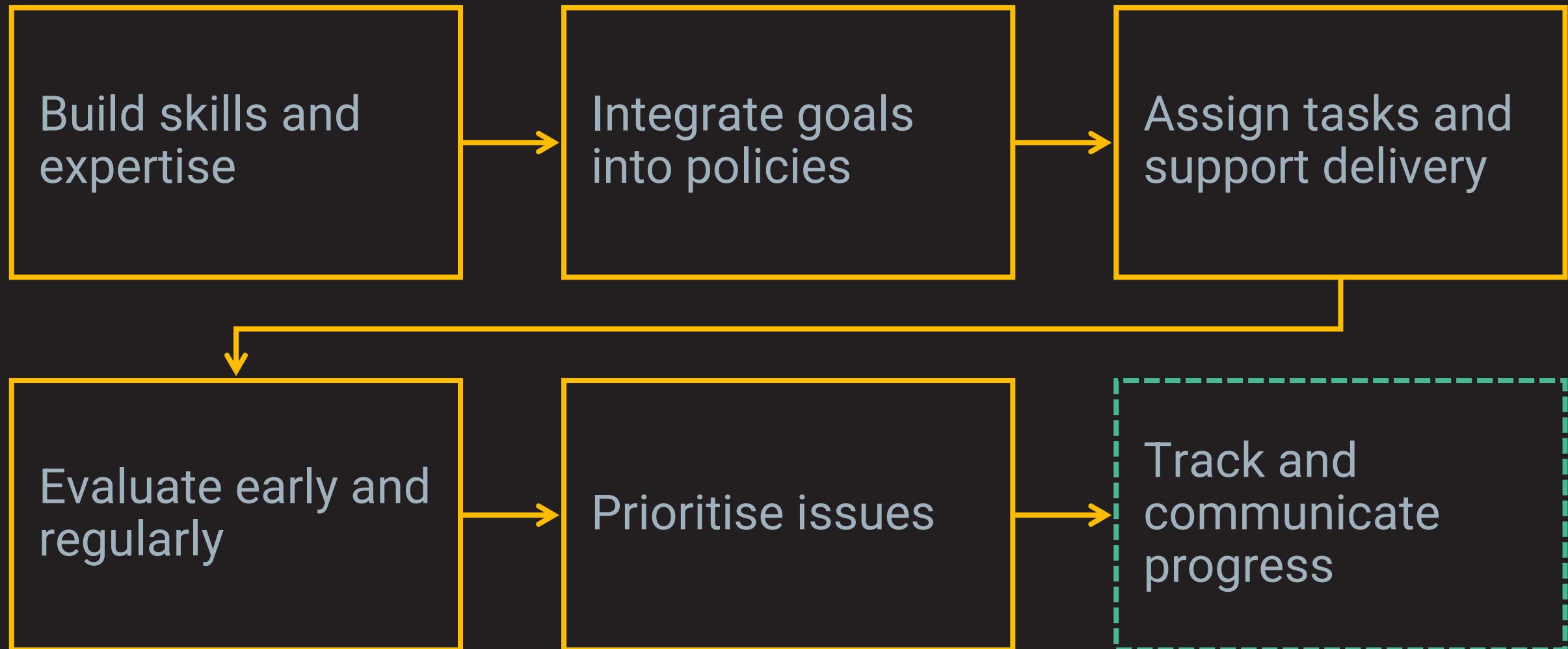
Priority	Criteria	Action
<h1>Critical</h1>	<p>The issue affects at least one disability such that</p> <ul style="list-style-type: none"> • a critical business function cannot be used by a user with an affected disability. <p>Think about the impact from this perspective: If all users could not use this functionality, would we consider that critical?</p>	<p>Stop deployment/release of affected software until the defect is remediated.</p> <ul style="list-style-type: none"> • If the defect is discovered in production, implement a hot fix immediately. • If the hot fix cannot be implemented immediately, create alternative channel for achieving the functionality. Train Service Desk staff how to direct users to the alternative channel.

Priority	Criteria	Action
Serious	<p>The issue affects at least one disability such that</p> <ul style="list-style-type: none"> • critical business functionality can only be used with an acceptable workaround, • or the issue affects functionality that is not essential, but prevents at least one disability from being able to use this functionality. 	<ul style="list-style-type: none"> • Fix the defect in the very next deployment/release. • Update accessibility statement with the workaround and train Service Desk staff on how to deal with the issue.

Priority	Criteria	Action
<h1>Moderate</h1>	<p>The issue affects functionality that is not essential and has an acceptable workaround.</p>	<ul style="list-style-type: none">• Update accessibility statement with the workaround.• Train Service Desk staff on how to deal with the issue.• Assign defect fix priority in a similar way to defects that affect general site usability.

Priority	Criteria	Action
Minor	<p>The issue affects functionality in a distracting way e.g.,</p> <ul style="list-style-type: none">• duplicate accessible names,• presentational elements that are not marked as presentational,• or inconsistent use of markup.	Assign defect fix priority in a similar way to defects that affect brand, consistency of use, and look-and-feel.

Track and communicate progress



Track and communicate progress



Monitor progress towards accessibility goals.

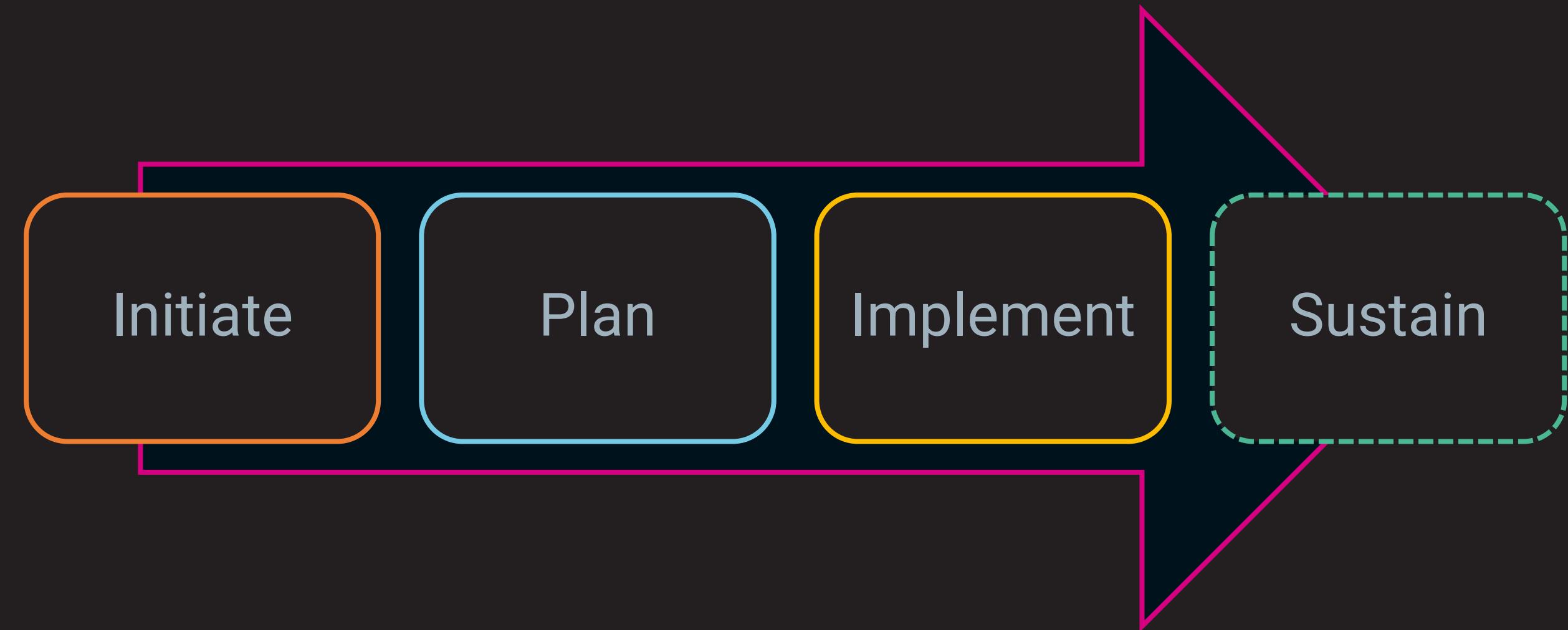


Share accessibility achievements.

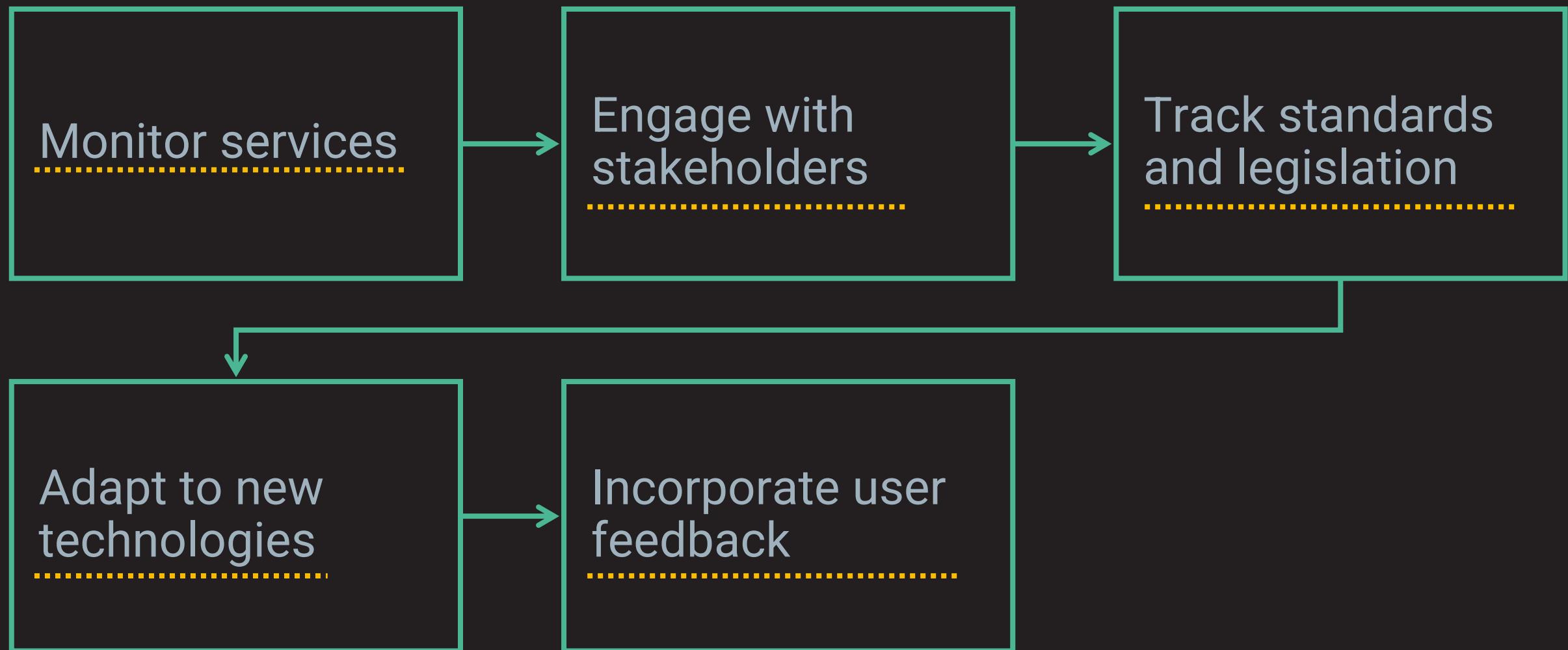


Communicate lack of achievement

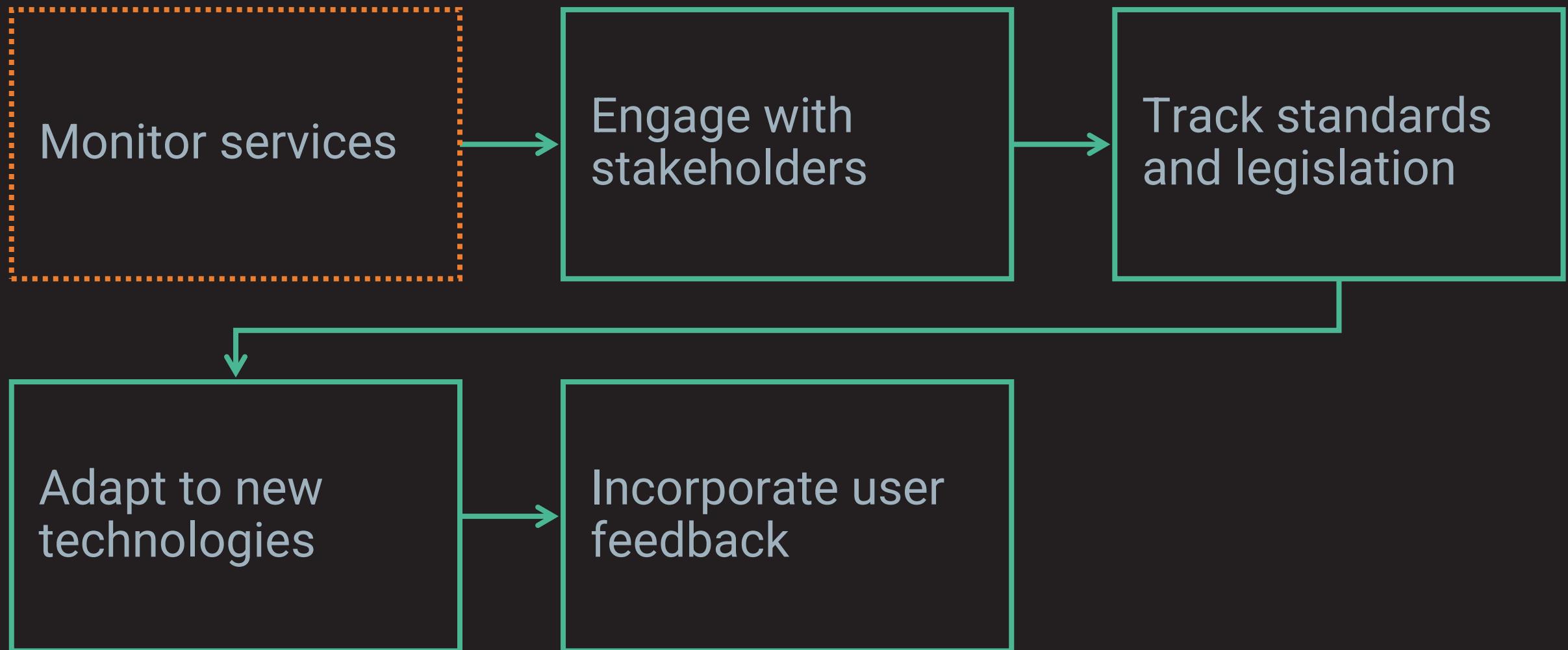
Planning and Managing Web Accessibility



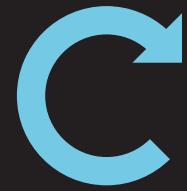
Sustain



Monitor services



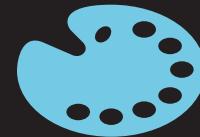
Coordinate with service and process owners to identify opportunities for improvement



Process Refresh



Changes /
Upgrades



Redesign



New Services

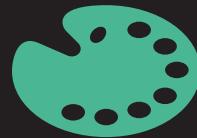
Review accessibility again when required



New templates
or interface
patterns



Changes /
Upgrades



Redesign



New Services

Use a consistent evaluation and process reporting template.

- Helps identify trends across services or teams.
- Helps management reporting.



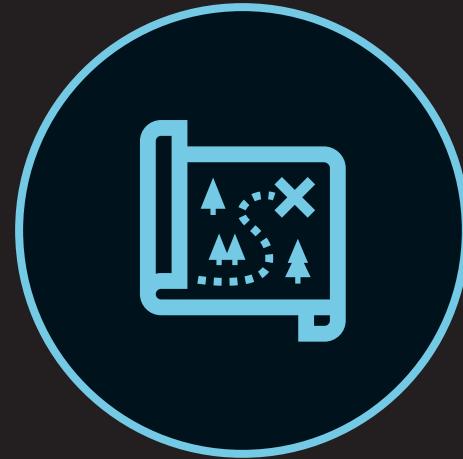
As you find issues, consider



Is it due to
insufficient training?

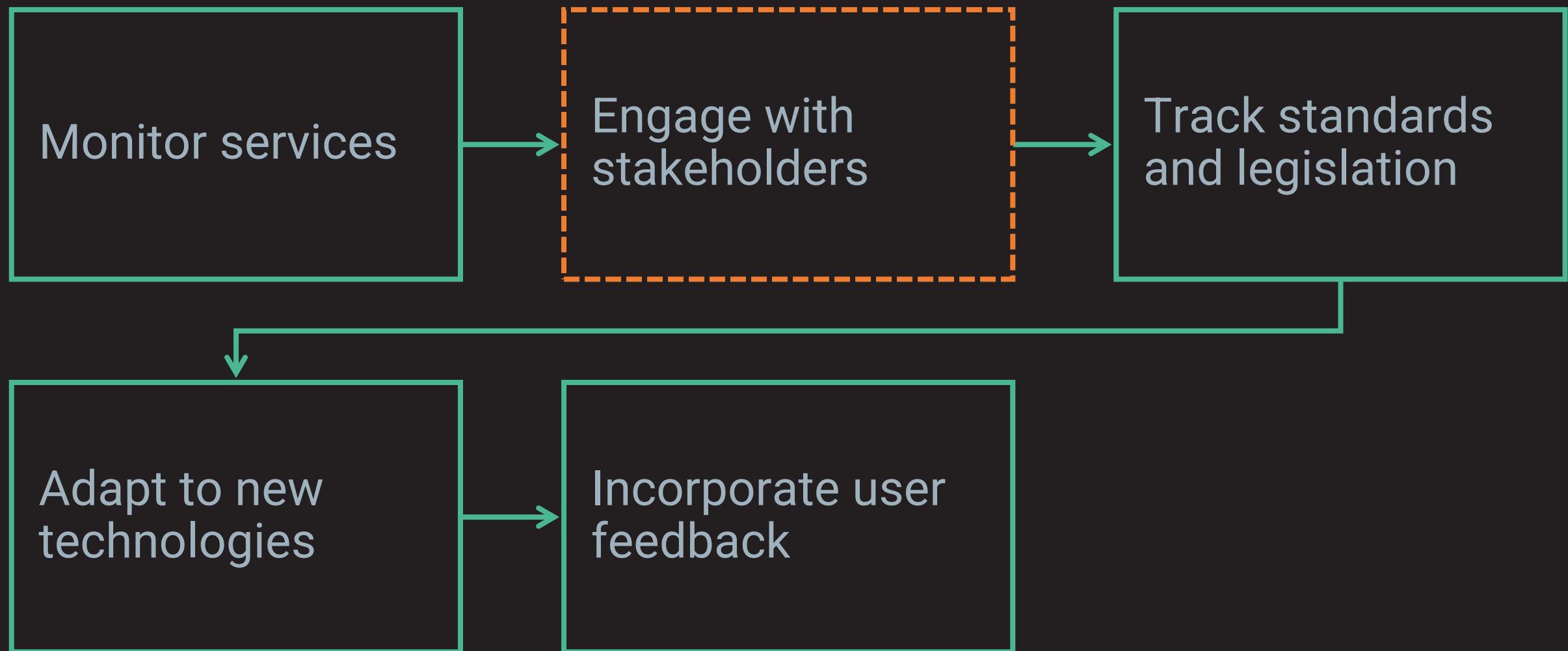


Was it due to a
change to the
service?



Are our
processes
clear enough?

Engage with stakeholders



Work with stakeholders to continually prioritise accessibility



Engaging with stakeholders



Awareness of improvements to accessibility.

What are the benefits? Are KPIs relevant and up to date?



Seek long-term engagement within the department.

How is accessibility affecting project delivery?



Consider accessibility during restructure.

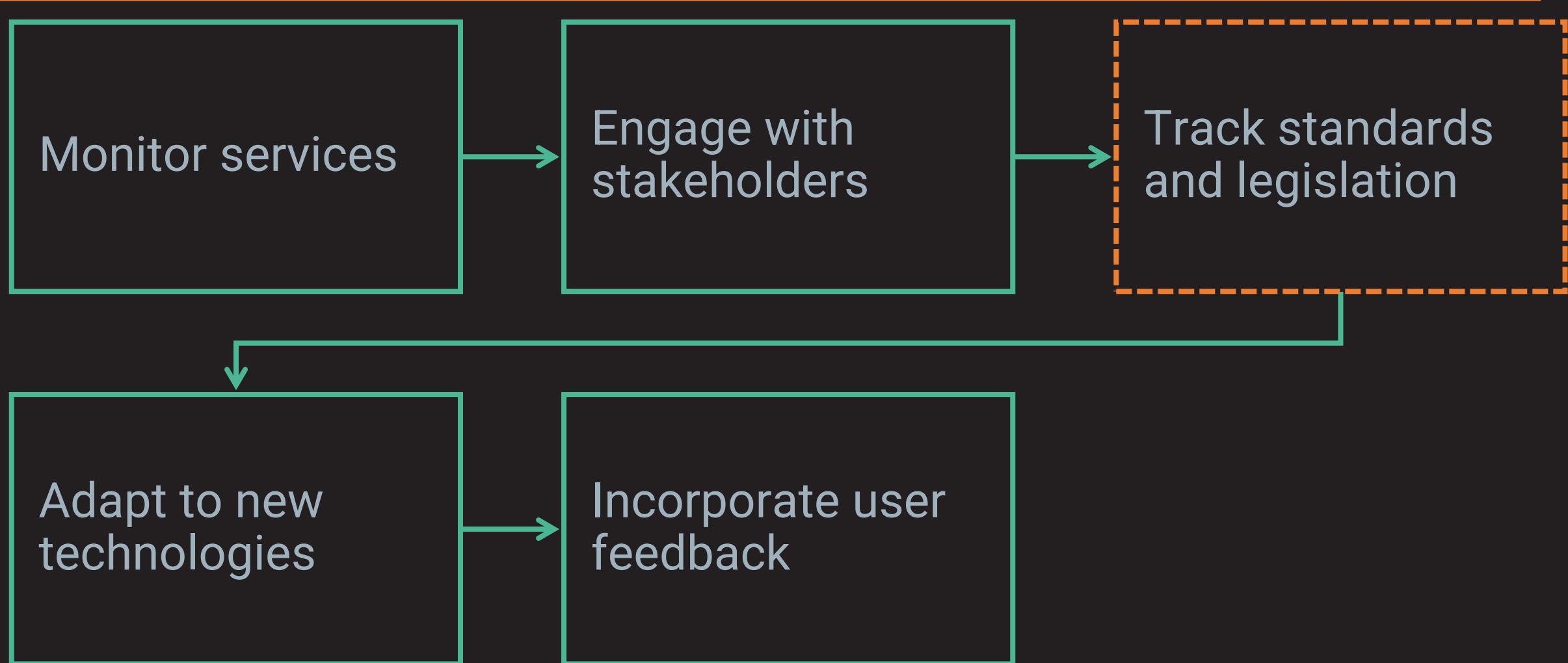
How can accessibility be sustained following a reorganisation?



Ensure suppliers sustain accessibility.

Look for win-win opportunities.

Track standards and legislation



Keep up-to-date with changes to ensure that you are responding to the latest requirements.



Rules



Legislation

ETSI EN 301 549 V3.2.1 (2021-03)

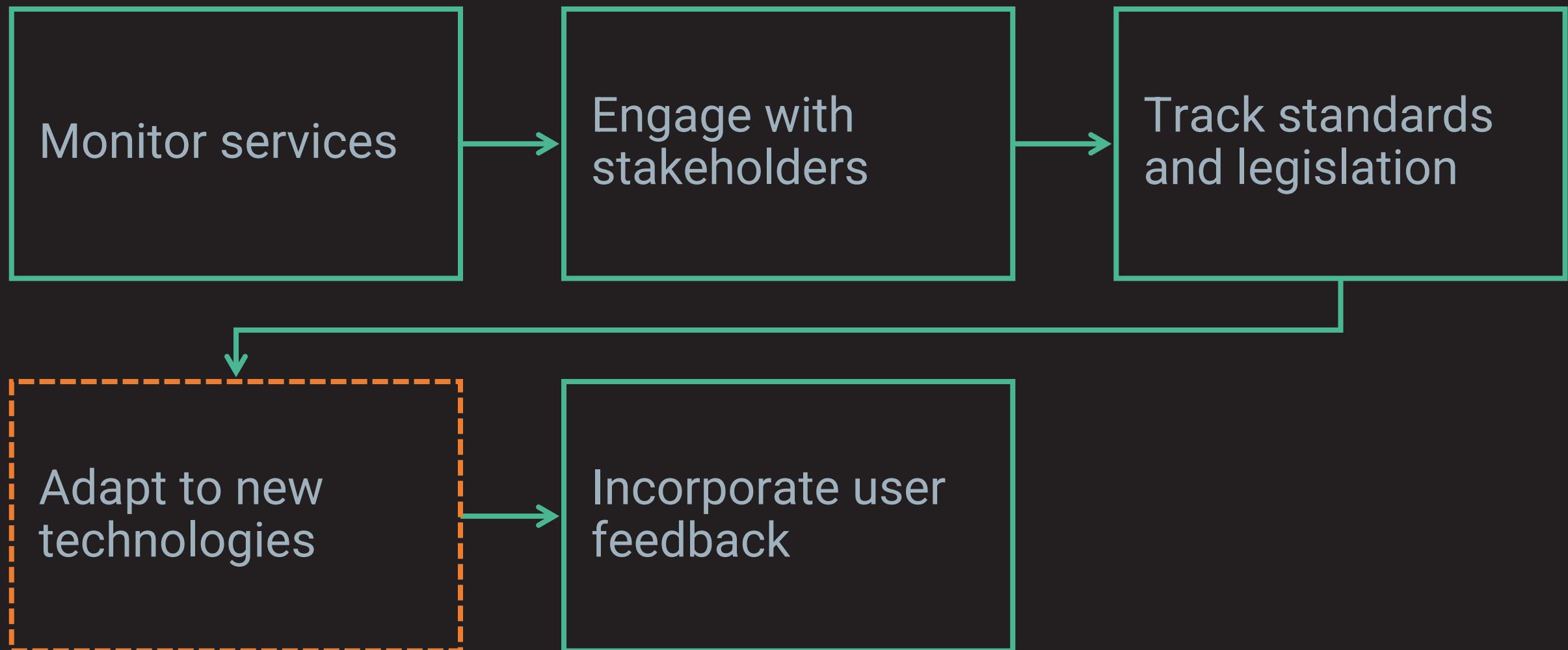
- Chapter 9: Web
- Chapter 10: Non-web documents
- Chapter 11: Software (mobile apps)

Version History

- V3.1.1 (2019-11)
- V2.1.2 (2018-08)
- V1.1.2 (2015-04)
- V1.1.1 (2014-02)



Sustain



Adapt to new technologies



Software

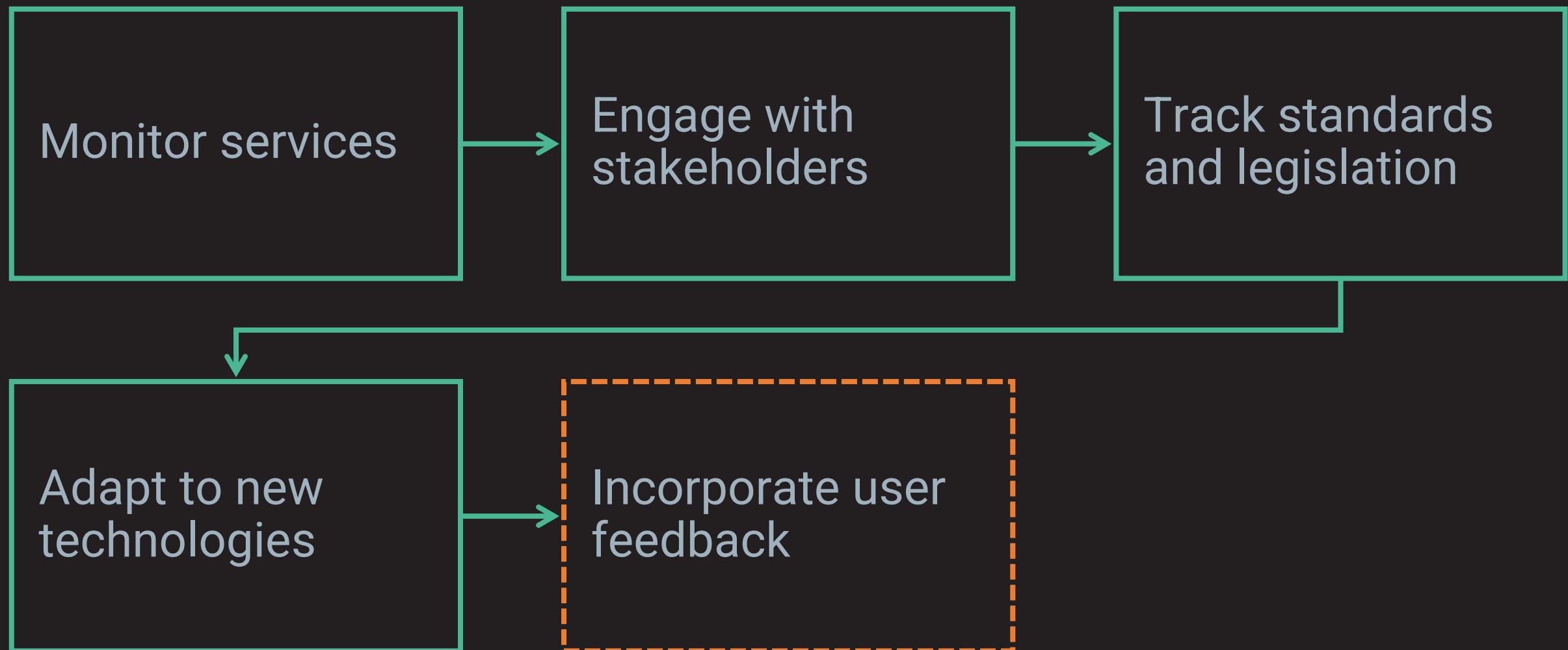


Practices



Frameworks

Sustain



Incorporating user feedback



Incorporating user feedback

- Invite user feedback.
- Use it to help guide improvement activities.
- Identify areas in need of attention.



Incorporating user feedback



Ensure support process in place to respond to user accessibility issues.



Train first line support and create clear escalation paths for issues that cannot be resolved immediately



Keep user informed if issue is escalated, involves changes, or when improvement can be expected.

Incorporating user feedback



Update accessibility statements after change, upgrades, issue resolution

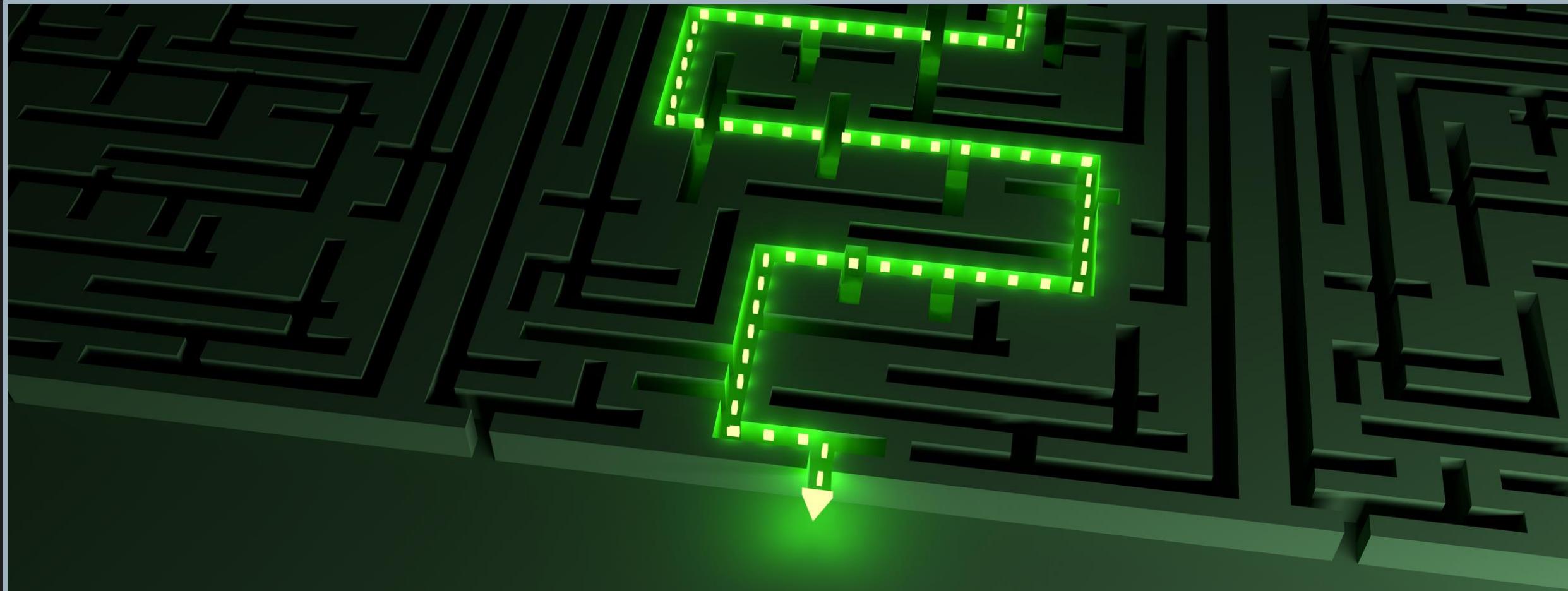


Communicate accessibility improvements and how they benefit user community.



Make it easy for users to submit feedback and ask questions about accessibility.

Conclusion



In this presentation we didn't have time to cover all the answers



Place digital accessibility within a wider-context.



We're all at different stages in this journey.



Introduce a pathway for implementing digital accessibility within your IT department.



As a community we can share practices and progress.

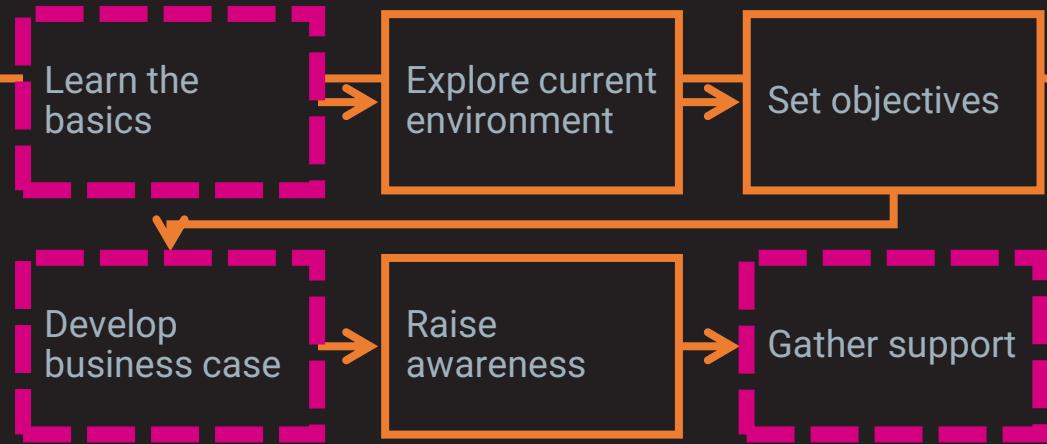


Share practical examples of how accessibility can be embedded within the policies and processes of an HE IT department.

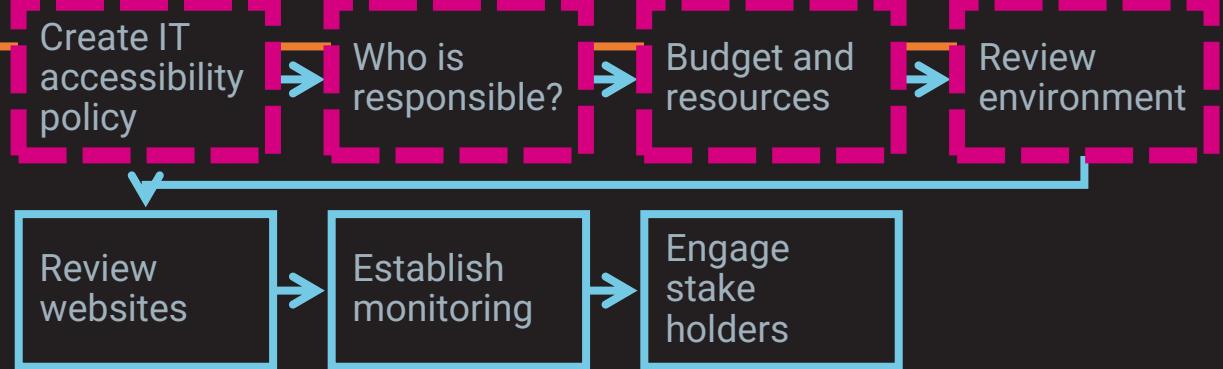


We'll follow up unanswered questions after this event.

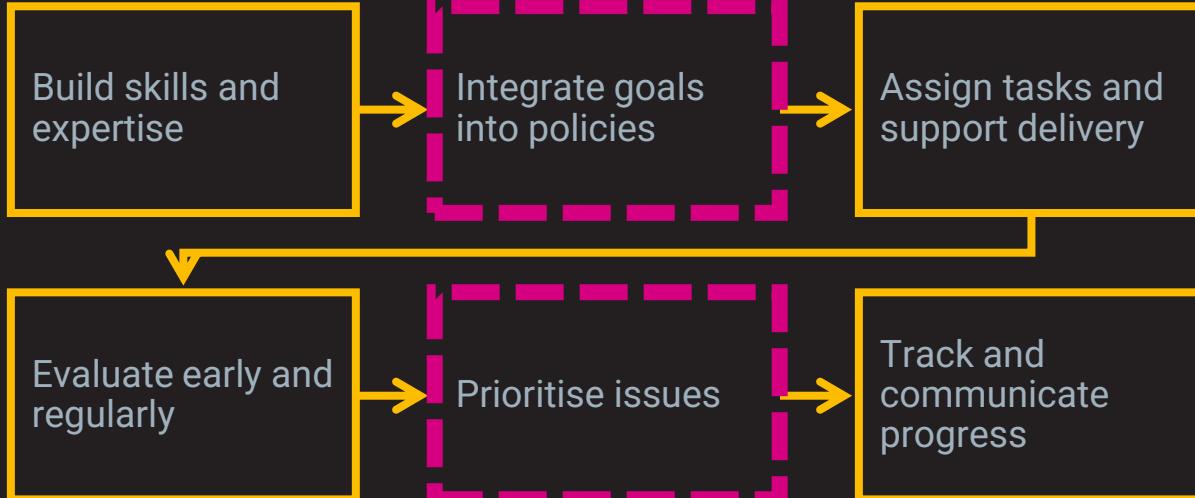
Initiate



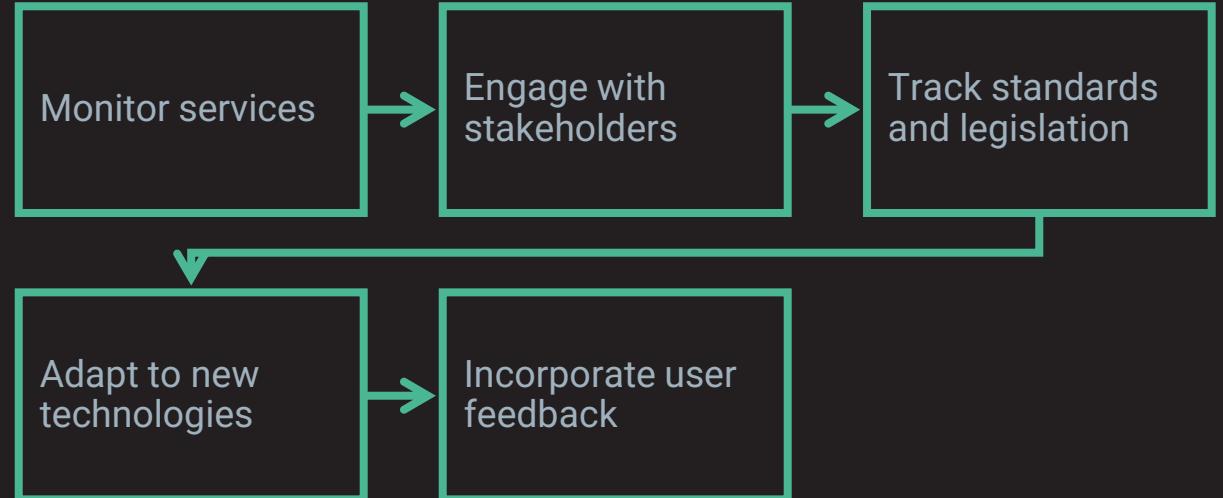
Plan



Implement



Sustain



Related content

Presentations

[Why should we care about Digital Accessibility?](#)

[Toward amazing accessibility!](#)

Blog posts

[Accessibility does not impede agility! Six ways that Digital Accessibility maps to Agile Practices](#)

Other Resources

[Accessibility Workshop Materials](#)

[Brand Palette Colour Contrast Matrix](#)

[Pathway to PSBAR](#)

Making IT accessible for all!

Synopsis

Recent experiences have demonstrated that University staff and students expect to use online resources with a variety of devices, making full use of accessibility features such as reflow, captions, and text-to-speech.

Such features benefit everyone, but especially the increasing proportion of university students who self-report a disability.

University Information Technology departments know they must commit to accessibility; indeed, they have a legal obligation to do so, but how can they take this ambition and embed accessibility within their policies and processes?

In this presentation, we will share:

- approaches to building a digital accessibility policy for university IT departments.
- techniques for embedding accessibility within IT development processes by

✓ Slide decks
✓ Artefacts
✓ Links
✓ Video with corrected captions and transcript

Final thoughts



I t's
M P O S S I B L E

Karl Groves, Founder and President, Tenon.io



“From a security perspective you’re always gonna filter escape and validate any input that comes from the outside world... you’ve got that pattern in your head ‘filter, validate, escape’. It’s how you do things all the time. **Same thing goes for accessibility**, once you start doing accessibility it becomes how things get done and then it’s not extra work”

Alistair McNaught, accessibility consultant

“...compliance does not guarantee a good experience any more than non-compliance guarantees bad one.
Understanding the issues, communicating clearly and developing appropriate compromises with disabled users (where required) is both a more human way of working and more effective.”



Continue the conversation

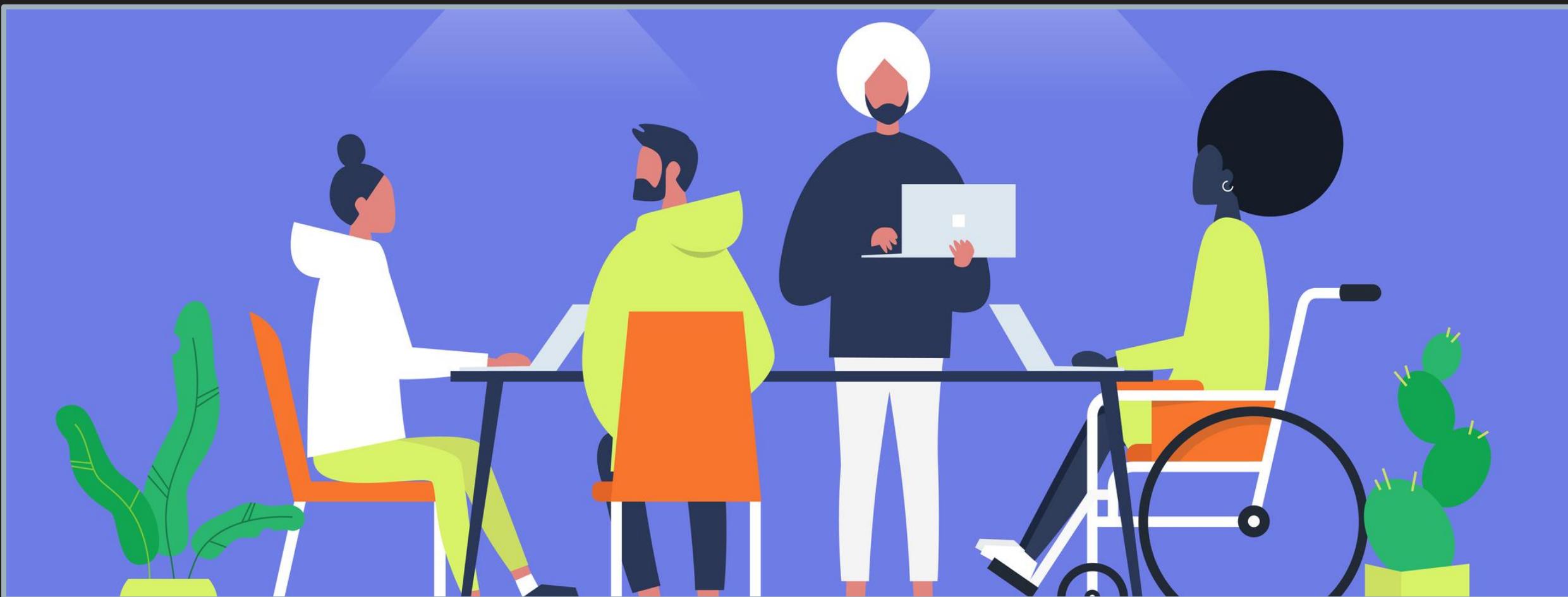
- The full slide deck has a suggested roadmap for your next steps.
- We will try to follow up questions we did not answer today in the follow-up email.



Thank you



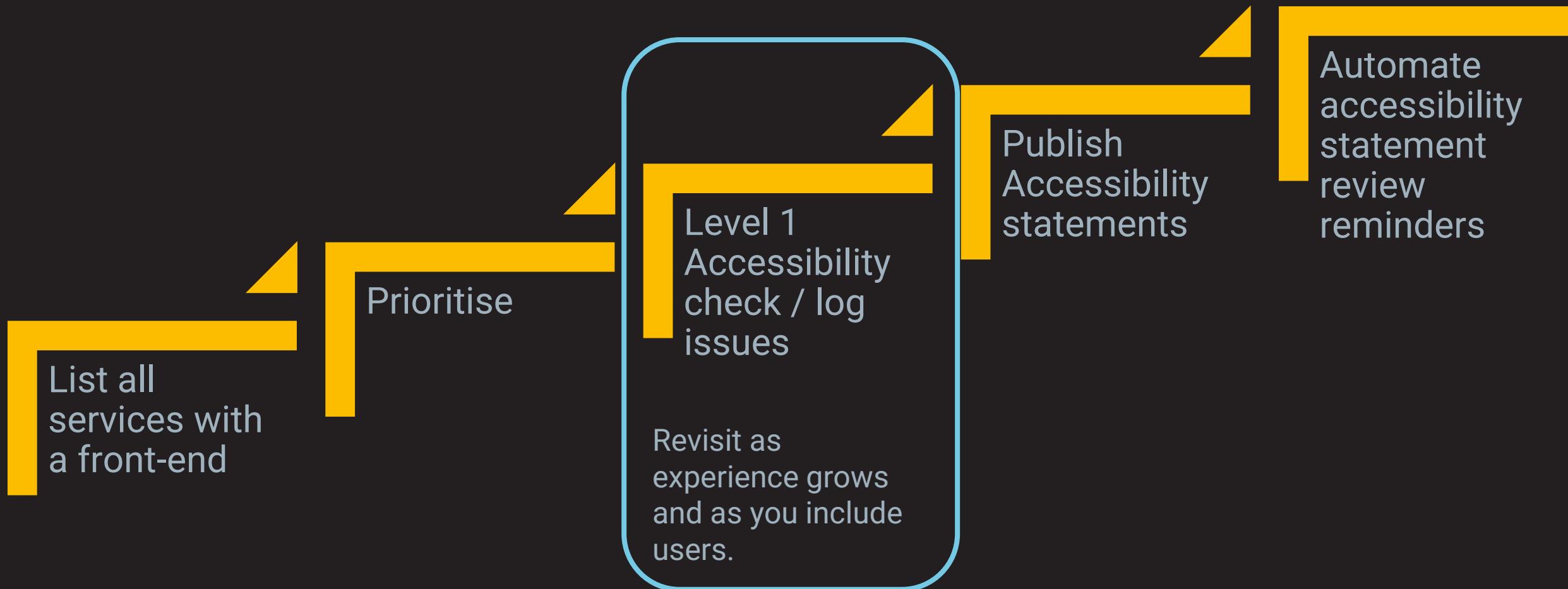
Q & A / Discussion



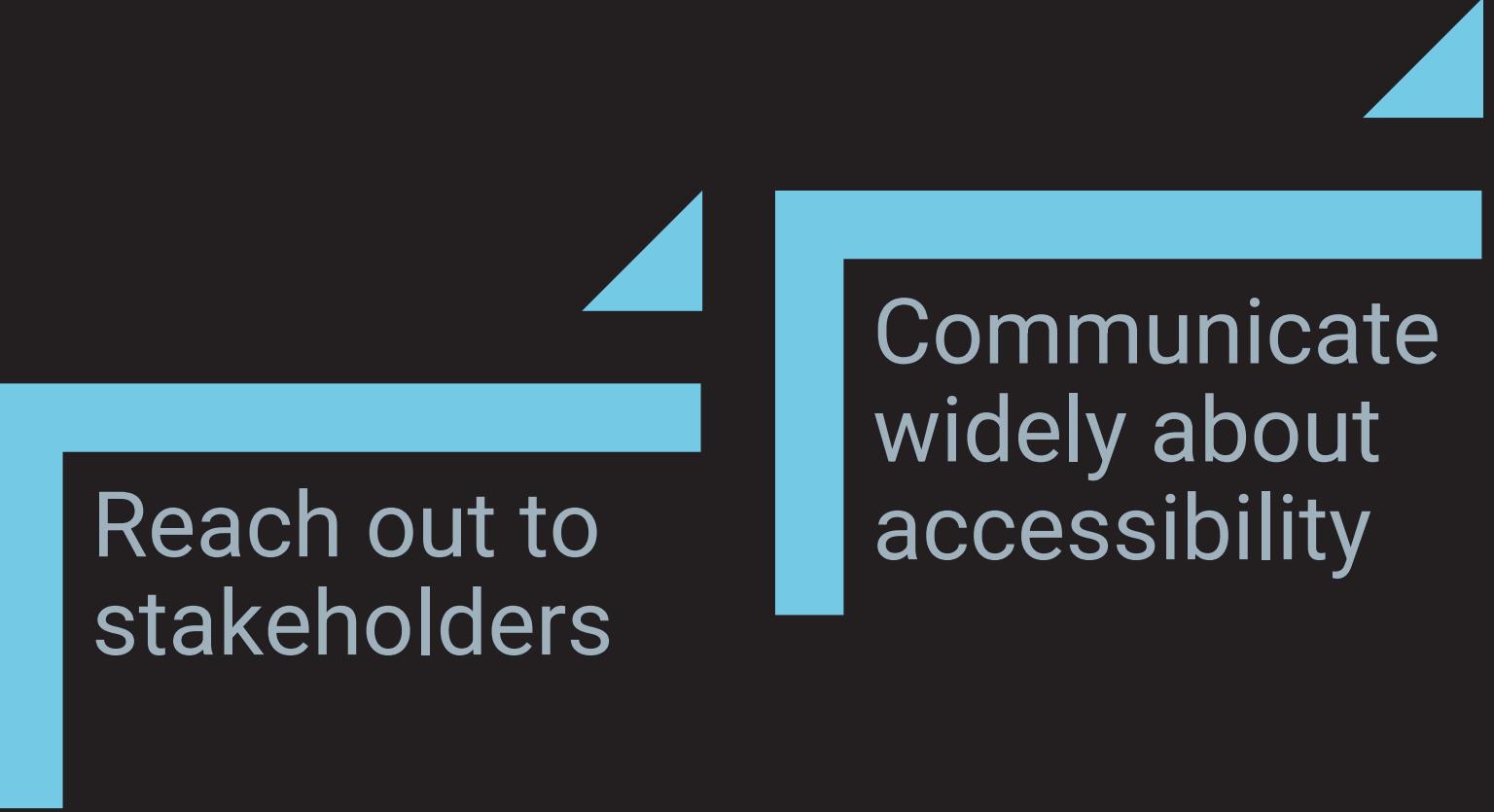
Roadmap



Practical next steps: Accessibility Statements



Practical next steps: communication and engagement



Reach out to stakeholders

Communicate widely about accessibility

Seek users for testing and co-design activities

Practical next steps: accessibility testing

1 Develop accessibility testing process and training.

2 Build framework for recording and storing accessibility test results

3 Build level 2 /3 / 4 tests etc

4 Involve users with testing.

Practical next steps: automated testing

Develop automated accessibility testing mechanism and results capture

Categorise and analyse types of issues found, and provide measurement data

Identify quick wins and create a plan for reducing issues that can be detected with automatic tools.

Research ways to add accessibility within CI/CD process

Practical next steps: component testing

Test components
for accessibility
issues

Analyse issues
within
components

Make
recommendations
for components.

Practical next steps: build

The diagram consists of three rectangular boxes arranged horizontally. Each box has a blue triangle pointing upwards from its top edge. The first box on the left contains the text 'Review dev tools and identify appropriate accessibility linters'. The middle box contains 'Review frameworks for accessibility'. The third box on the right contains 'Create a component library'.

Review dev tools
and identify
appropriate
accessibility
linters

Review
frameworks for
accessibility

Create a
component
library

Practical next steps: design

Review existing design / style guides.

List accessible brand colour options.

Update existing design / style guides.

Create an accessible design language

Practical next steps: ITSM

The diagram consists of three dark blue rectangular boxes arranged vertically. The top two boxes have white borders and are connected by a horizontal line. The bottom box has a black border. Three white right-angle triangles point from the bottom of the top box to the top of the middle box, and from the bottom of the middle box to the top of the bottom box, indicating a sequential flow.

Log and own accessibility issues in changes and new services that are released.

Agree a definition of done for accessibility.

Accessibility in change / release approval process.

Practical next steps: Documentation

Training for content creators.

Style guides.

All new content follows best-practices.

Older content adjusted based on priority.

Practical next steps: Procurement

Accessibility
within Non-
functional
requirements

VPATs /
ACRs

Supplier
Management

Accessibility
roadmaps