Intro to Accessibility Behavior Informed Development (a11yBID)

Michael Fairchild

508

AUDIT

ARIA

ADA

WCAG

What is Accessibility Behavior Informed Development (a11yBID)?

- An agile software development process

- A specialized version of Behavior Driven Development (BDD)

- Facilitates collaborative planning for accessibility

- Results in
  - Accessibility AC (a11yAC)
  - Potentially revised design

deque

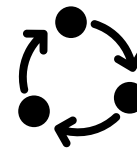# How it started

Assessment & remediation
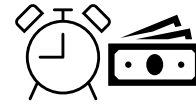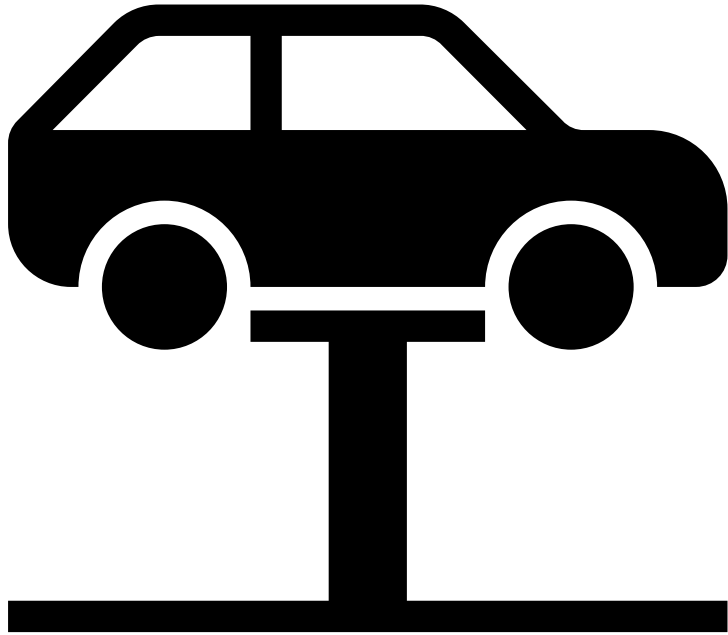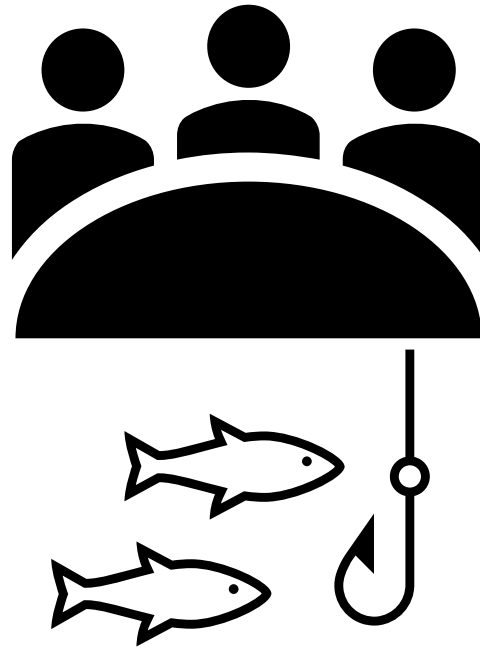
Very late in the process

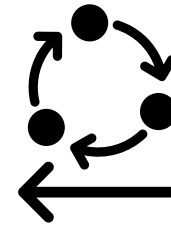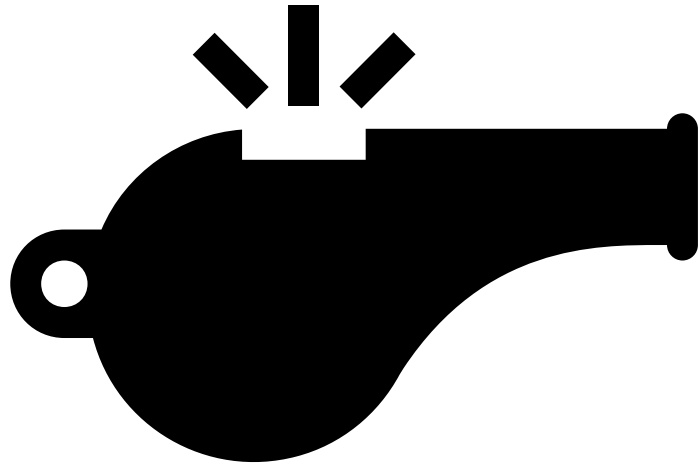Frustrating for the teams, stakeholders, and users

Doesn't fix the process

Client wanted teams to be self-sustainable
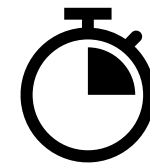

Teach teams to learn to fish for themselves
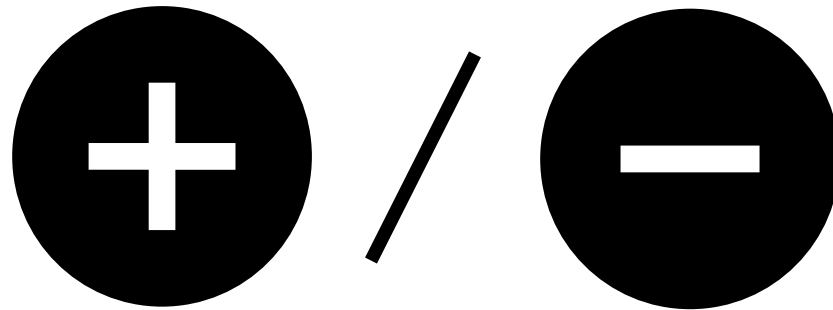
Accessibility coaching

Shift-left

Improve skill / will
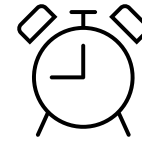
Efficient process

deque

What did we try?

A note about the following approaches

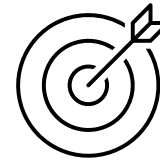Each of the following approaches have their own pros and cons

deque

Checklists

Usually late in the process

Checkpoints that are not relevant

Abstract rules

deque

Definition of Done
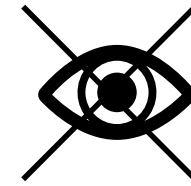
Hidden away and often forgotten
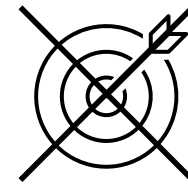
Rules that are not relevant

Abstract rules

deque

Design annotations
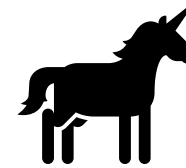
Designers need to be experts in many fields

Describes code rather than user experience

Usually little collaboration

Automation
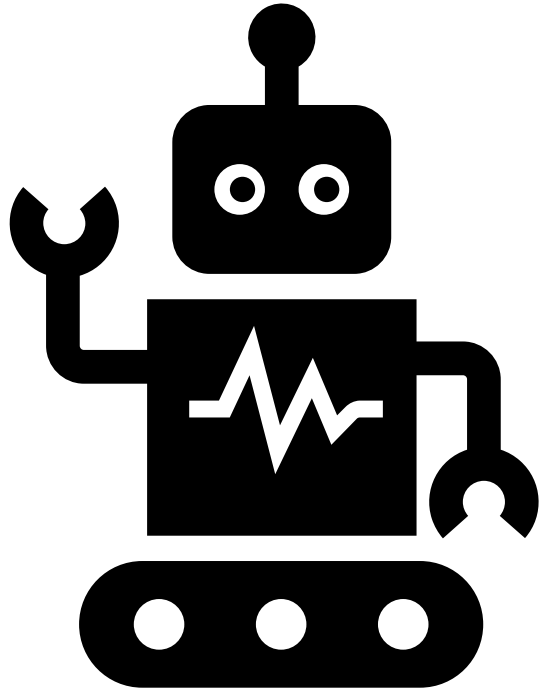
Code needs to be written first
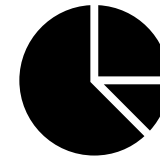
Partial WCAG coverage

Configured by humans

deque

Education
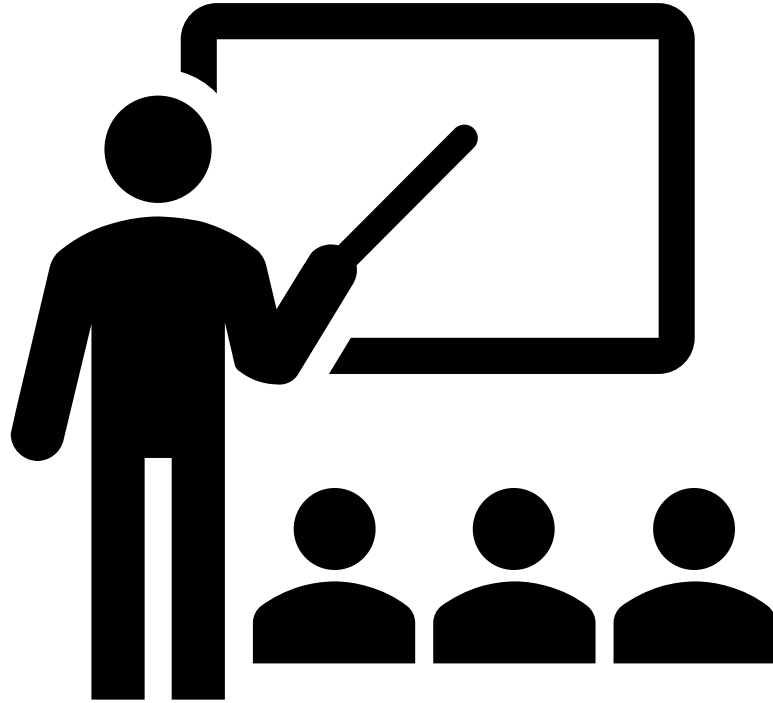
Participants only retain so much

Scheduling
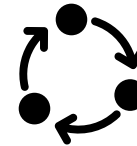
Difficult to practice if no process

What process do the teams follow?

Their process

Plan → Design → **Story writing** → Develop → Test → Accept → Release → Repeat

deque
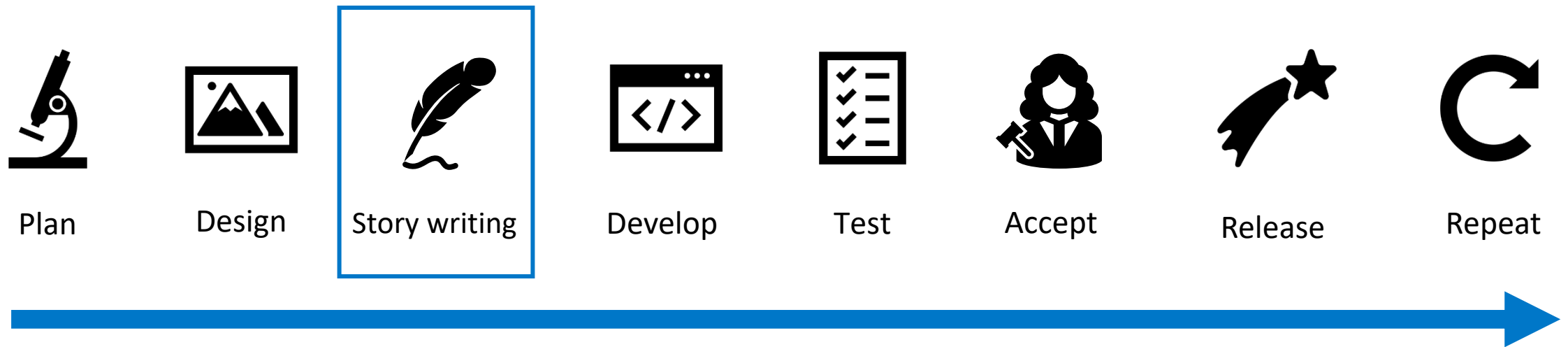
Story Writing
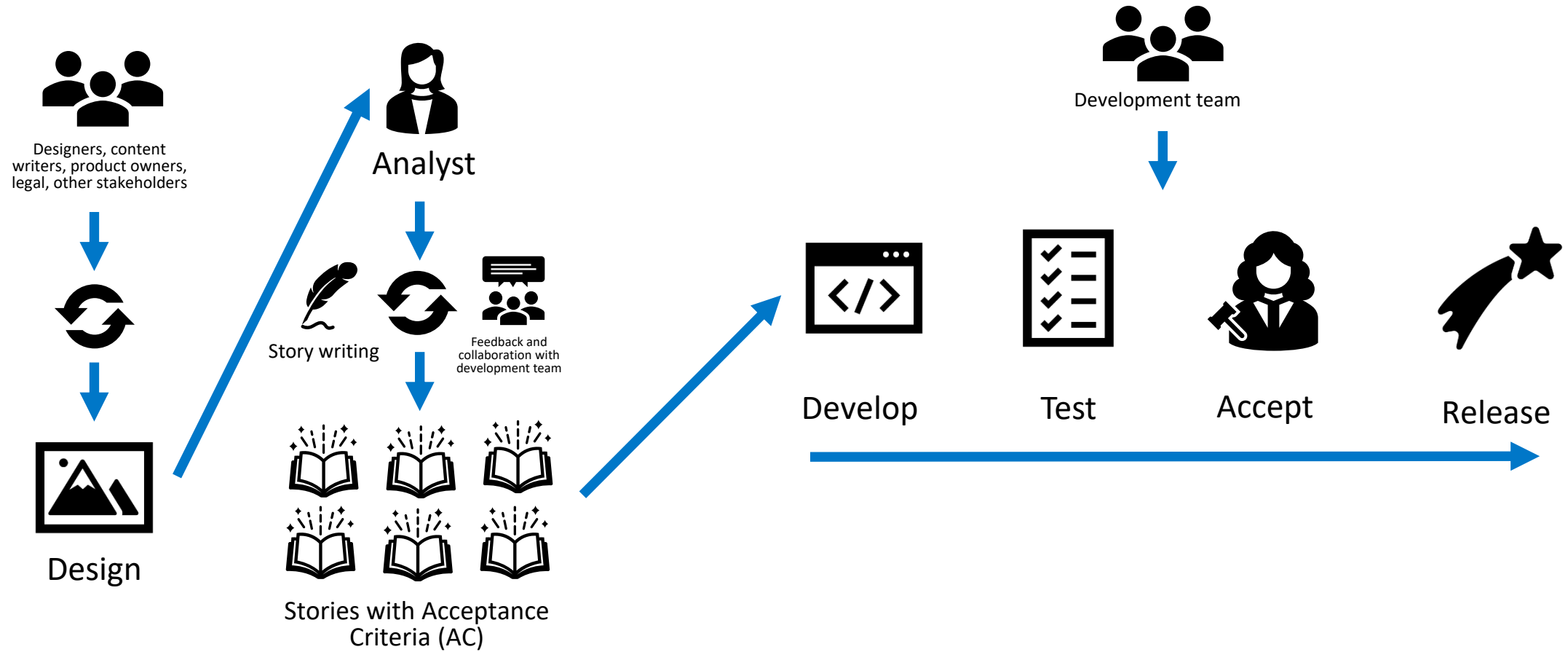
What is Behavior Driven Development (BDD)

Problem

Abstract requirements and assumptions

No shared understanding of requirements

Delivered late
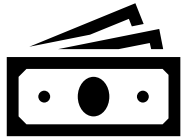
High cost

Solution

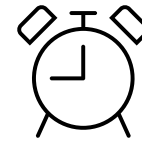Conversations between stakeholders and cross-functional team members to discover system behavior

Concrete examples in plain language Acceptance Criteria (AC)
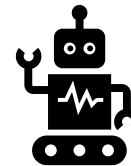
Testable and executable specification

deque

BDD style Acceptance Criteria

AC 1
Scenario: A user sees an error message when they enter incorrect credentials while trying to log in.

Given that I am on the log in page
And I entered my username and password incorrectly
When I click 'Log In'
Then I see an error message displayed above the form

BDD style Acceptance Criteria (Gherkin)

- **Scenario**: A summary of the desired behavior
- **Given**: Describes any preconditions and context; prepare the test environment.
- **When**: Describes the action that is being tested.
- **Then**: Describes the expected outcomes.

deque

Who uses Acceptance Criteria?
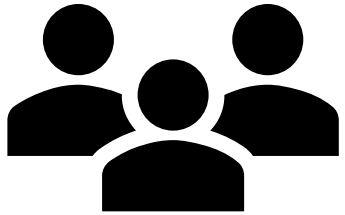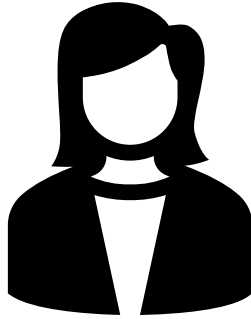
Entire Team   Analyst   Developers   Testers   Product Owners
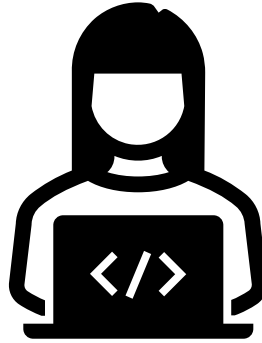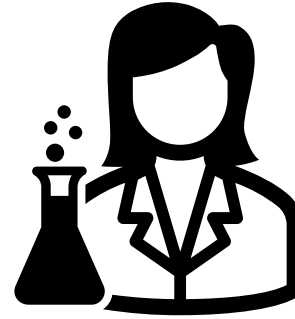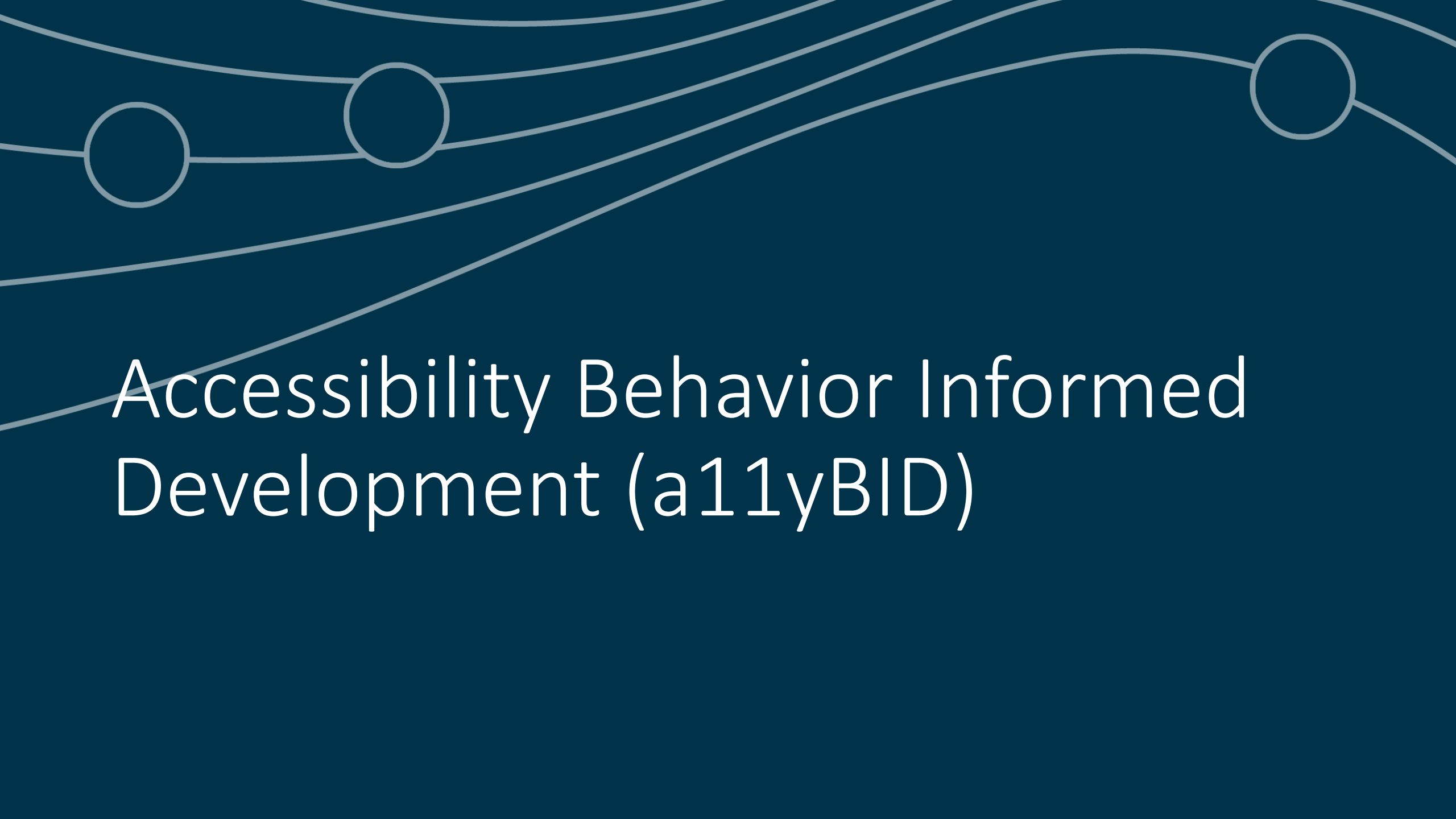
deque

Accessibility Behavior Informed Development (a11yBID)

What is a11yBID

Analyst

Concrete examples of the UI (usually high-fidelity designs)

Collaborative planning

Use cross-functional conversations

Review the design

Story and a11yAC writing

Revised design

Stories with a11yAC

deque
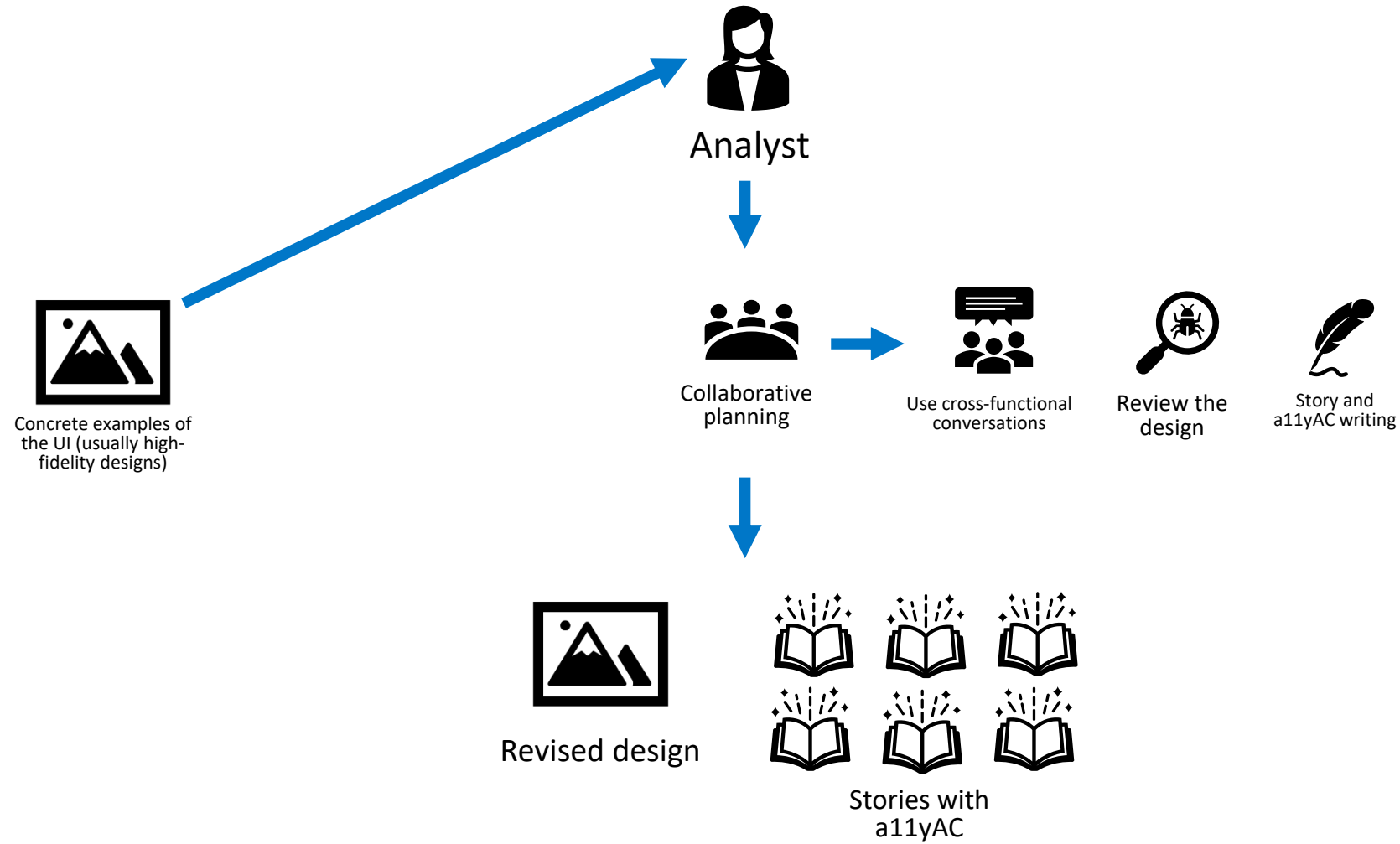
The a11y amigos meeting
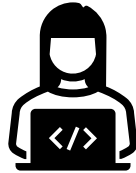
Designer   Analyst   Developer   Tester   Product Owner

deque

Example of the process

Input (design)

Log in

❌ **Error**
The credentials that you entered were not recognized. Please try again.

Email address

Password

LOG IN

Process

Use cross-functional conversations

Checklists

Education

Documentation

Experience

Output

Revised design

Documents visual experience / requirements

Log in

❌ **Error**
The credentials that you entered were not recognized. Please try again.

Email address

Password

LOG IN

a11yAC

Documents the assistive technology experience / requirements

+

deque

Example a11yAC

a11yAC 2

Scenario: A sighted keyboard-only user with a motor disability is brought to an error message after trying to submit the log in form with incorrect credentials.

Given I am a sighted keyboard-only user with a motor disability
And I am on the log in page
And I entered my username and password incorrectly
When I activate the 'Log In' button
Then my keyboard focus is brought to the error that is displayed above the form
And I can visually see where my keyboard focus is on the page

Log in

Error
The credentials that you entered were not recognized. Please try again.

Email address

Password

LOG IN

Example a11yAC (continued)

a11yAC 3

Scenario: A blind screen reader user is not made aware of decorative images

Given I am a blind screen reader user
And I am on the log in page
And the error message about incorrect credentials is displayed
When I navigate past the error icon
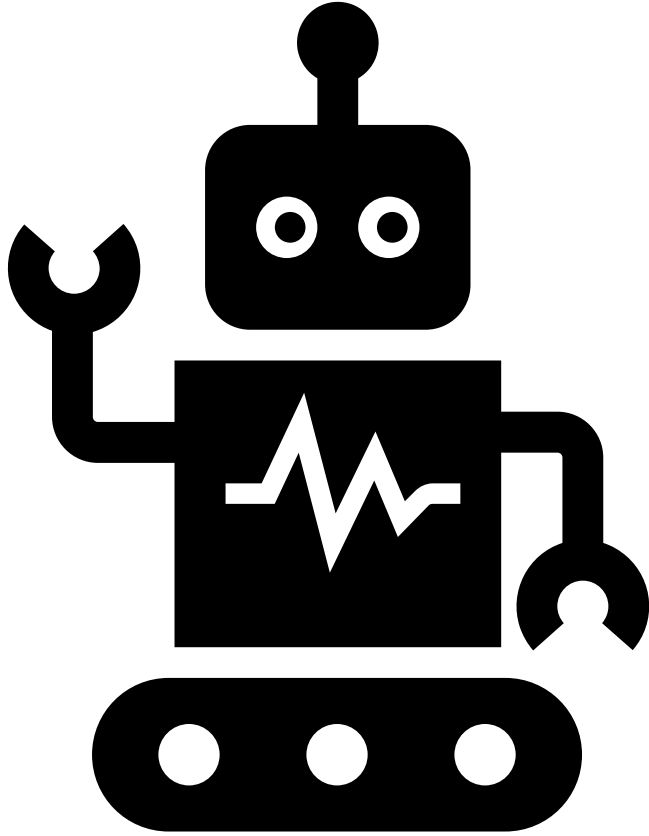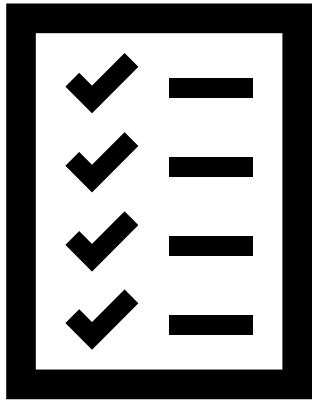**Then** the error icon is not conveyed

Automate the a11yAC

- Use a tool like Cucumber
- Test keyboard behaviors
- Test screen reader behaviors
  - a11y APIs / a11y trees
  - Screen reader drivers
- Integrate into CI/CD
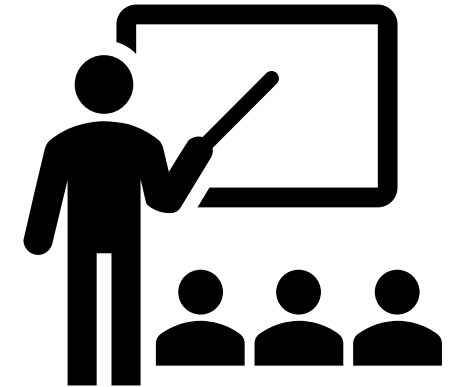
deque

What's left?

Manual audits

(What fell through the cracks of planning?)

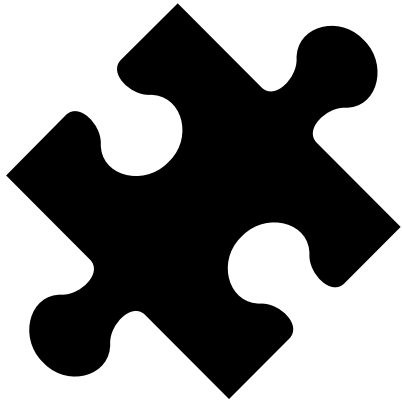**User research and feedback**

(How do we make the experience more delightful for people with disabilities?)
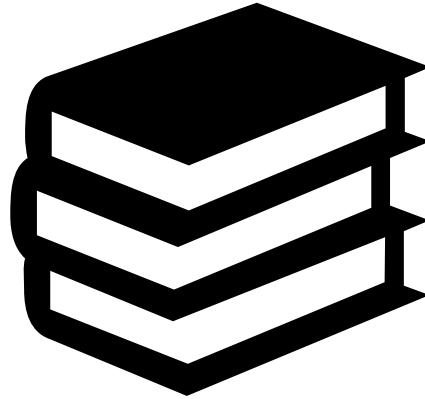
Education / training

(How do we make sure the team gains the skill/will needed to make accessible software?)
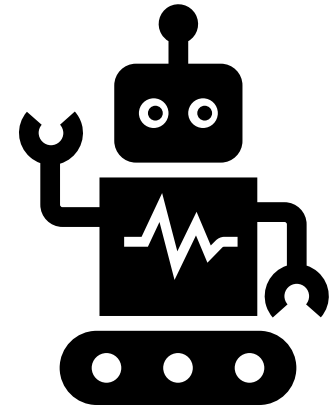
deque

Making a11yBID more scalable and efficient

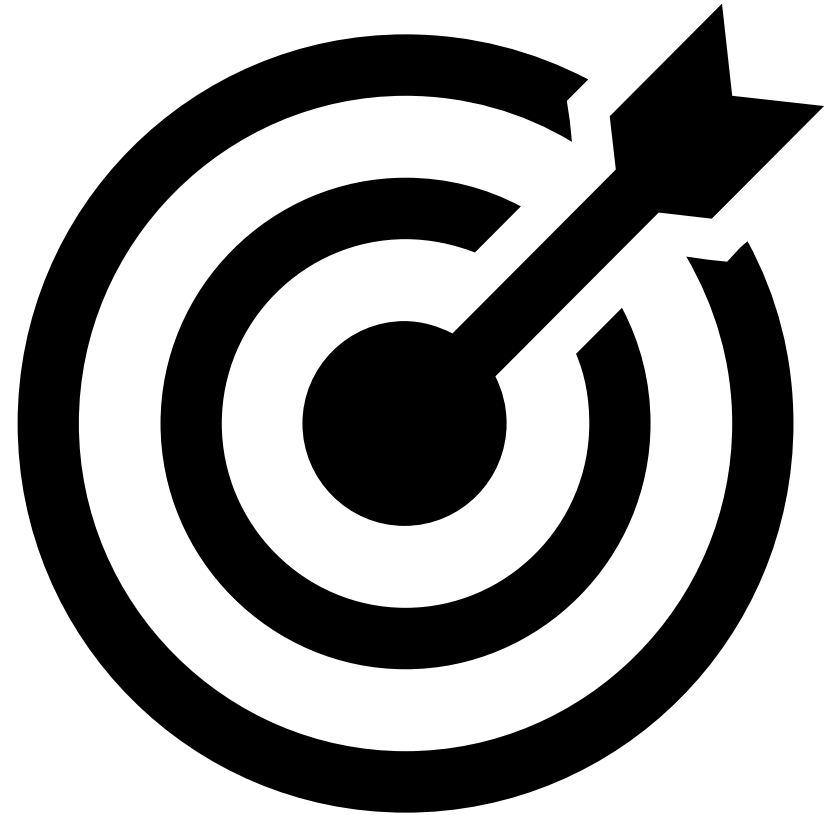Use an accessible design system and component library

Build an a11yAC library with guidance for components and patterns

Automate as much as possible

deque

Use AIMS

1. **Assess** the design for accessibility, ask questions, and remove assumptions

2. **Identify** and **inventory** patterns used in the design

3. **Map** those patterns to AC using guidance from the AC library

4. **Solve** for any remaining gaps, such as open questions, or missing AC

Next steps

- Try applying a11yBID to your next sprint
- Create an accessible design system and component library
- Create an a11y AC library
- Leverage Deque's accessibility coaching program
- Learn more: a11ybid.com

deque