

An abstract graphic on the left side of the slide, consisting of a dense network of interconnected nodes and lines. The nodes are small dots, and the lines are thin, creating a complex web-like structure. The color of the lines and nodes transitions from orange at the top to blue at the bottom. The overall shape is roughly triangular, pointing downwards.

Accessible Productivity

For Web Development Using Ember.js

whoami

- Disabled Military Veteran
- Accessibility Engineer at LinkedIn
- W3C ARIA Working Group
- Ember.js Framework Core Team





@MELANIERSUMNER

SHIFT LEFT
Melanie Sumner

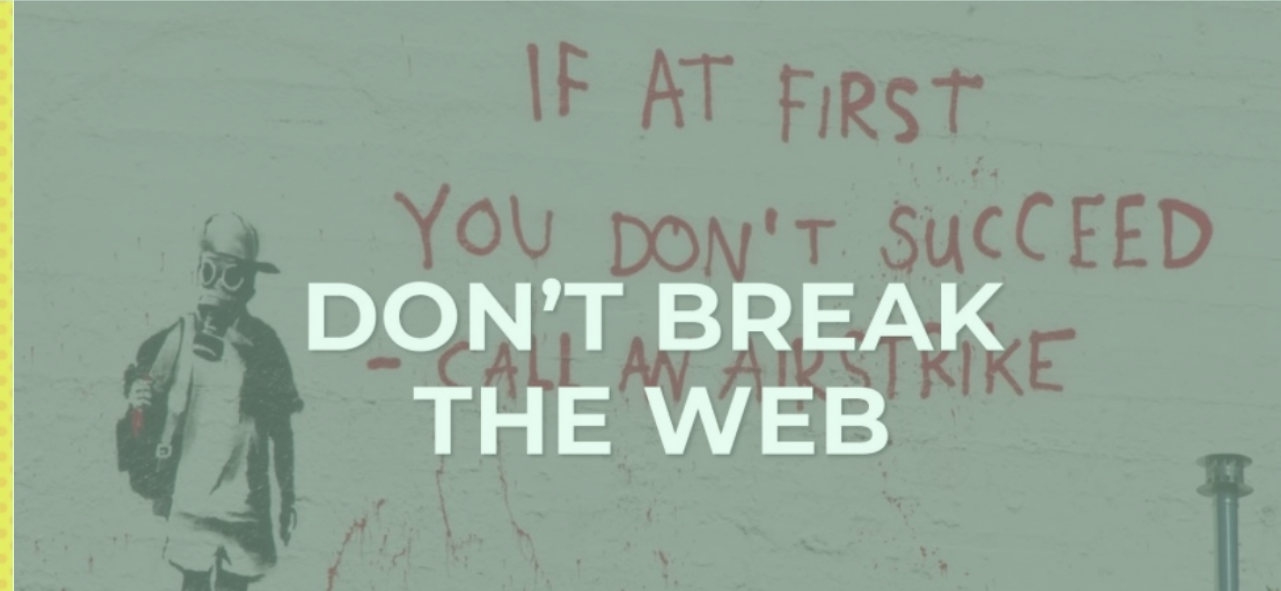


The
Phenomenon of
the Unlucky
Choice

@melaniersumner



**AMBITIOUS
FOR ALL!**



<https://noti.st/melsumner>

SHIFT LEFT
Melanie Sumner

The
Phenomenon of
the Unlucky
Choice

[Home](#)[Potential Violations](#)[GitHub Repo](#)

A11y Automation Tracker

A more thorough way to track the potential accessibility violations and the automated linters and tests currently available.



ACCESSIBILITY AUTOMATION

Catch potential a11y violations faster.

It can be hard to keep track of the potential accessibility violations in your code. More automation is being created for linting rules and tests-- and now there is a single site to track the automation available to developers.



Potential A11y Violations

FAILURE	LINTING STATUS	TESTING STATUS	MANUAL TESTING STATUS
Abstract Roles	Exists	Exists	Exists
Color Differences in Alt Text	Could Exist	Could Exist	Must Exist
Area Elements in Image Maps	Exists	Could Exist	Exists
ASCII Art	Cannot Exist	Cannot Exist	Must Exist
Autocomplete Values	Could Exist	Exists	Exists
Autoplaying Media	Could Exist	Exists	Should Exist
Autoplaying Sound	Cannot Exist	Exists	Should Exist
Blink Element Use	Exists	Could Exist	Exists
Background Image Contrast	Cannot Exist	Cannot Exist	Must Exist
Banner As Body Descendant	Cannot Exist	Exists	Exists
Blank th Elements	Could Exist	Could Exist	Must Exist
Text for Buttons and Links	Exists	Could Exist	Should Exist
Caption Elements in Layout Tables	Could Exist	Could Exist	Must Exist



Potential A11y Violation: Abstract Roles

[Linting Exists](#)[Testing Exists](#)

Point of Failure

Abstract roles should not be used.

Automation

Linting

See the [ember-template-lint](#) library for the [no-abstract-roles](#) rule.

Testing

See the [axe-core](#) library for the [aria-allowed-role rule](#).

Developer Authored Test

Developers should ensure that their code does not violate this rule, and write a test that prevents regressions in code if it is later changed.

Manual Test

Review page and ensure the point of failure does not exist, inspecting the DOM where required.

Relevant Link(s) (external):

[WCAG 1.3.1](#)

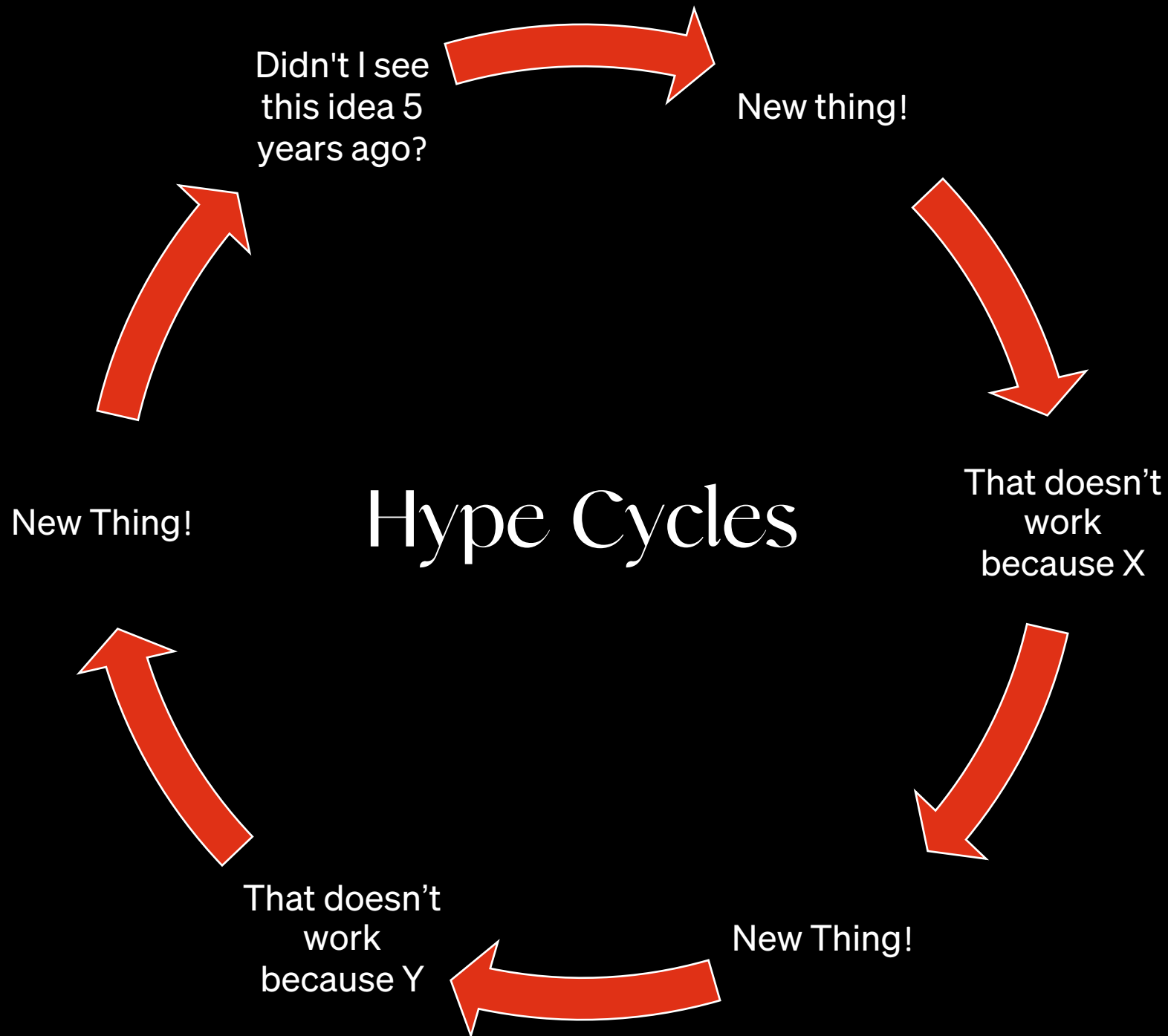
What I do

- Improve A11y in Ember
- Improve developer tooling
- Contribute to ARIA
- Strategic planning – a11y metrics
- Think, Talk, Plan, Think More, Talk More, Make Ideas Happen

I love what I do!



A predictable web development experience that
results in quality, inclusive applications

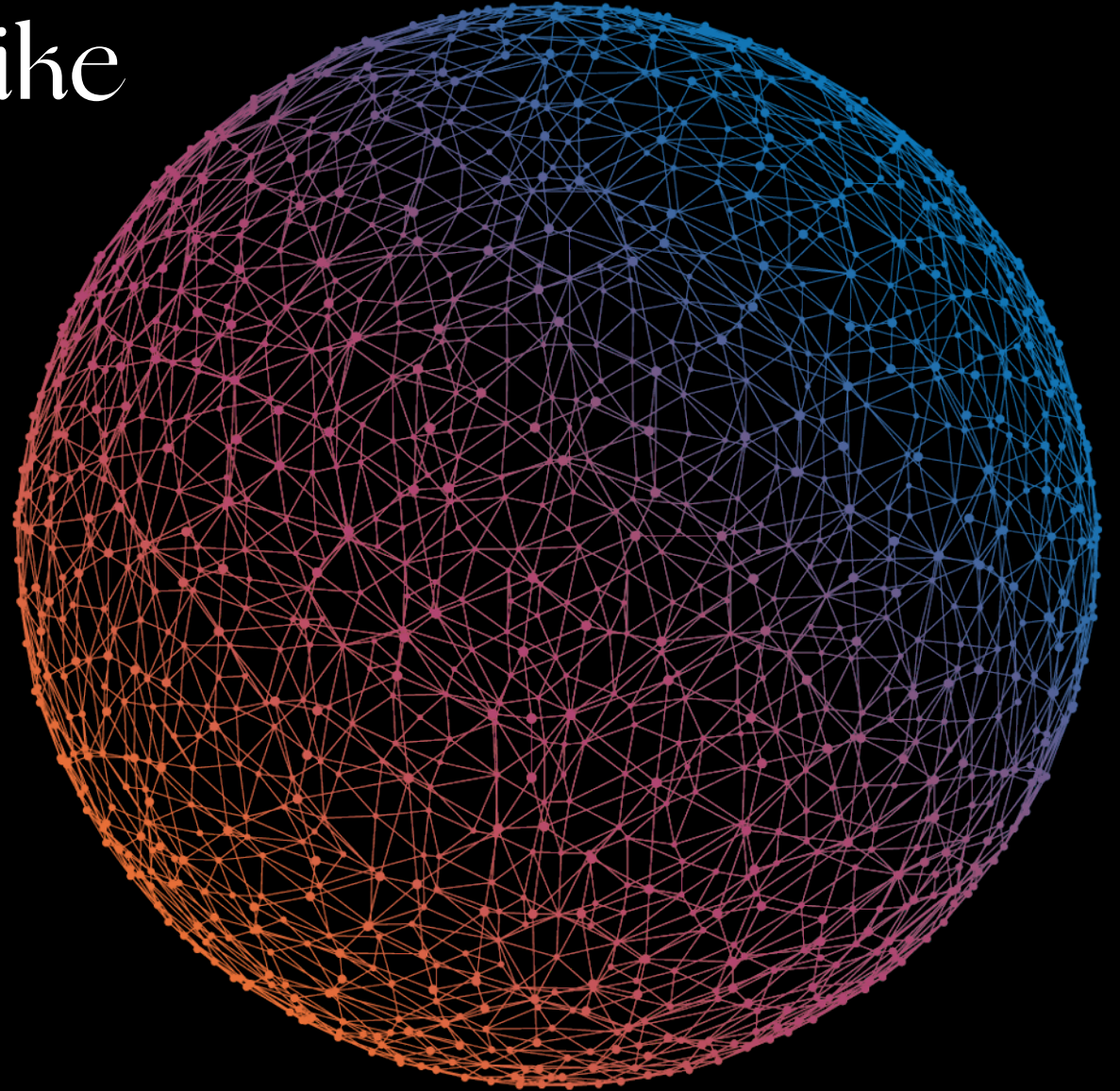


What We Think Dev Productivity Looks Like

- Top Ten Ways To Be a More Productive Developer
- One Weird Trick to Developer Productivity
- 15 ideas to increase your productivity at work
- 25 ideas to increase your productivity as you work from home
- 30 ideas to get back into an office so you can be productive again

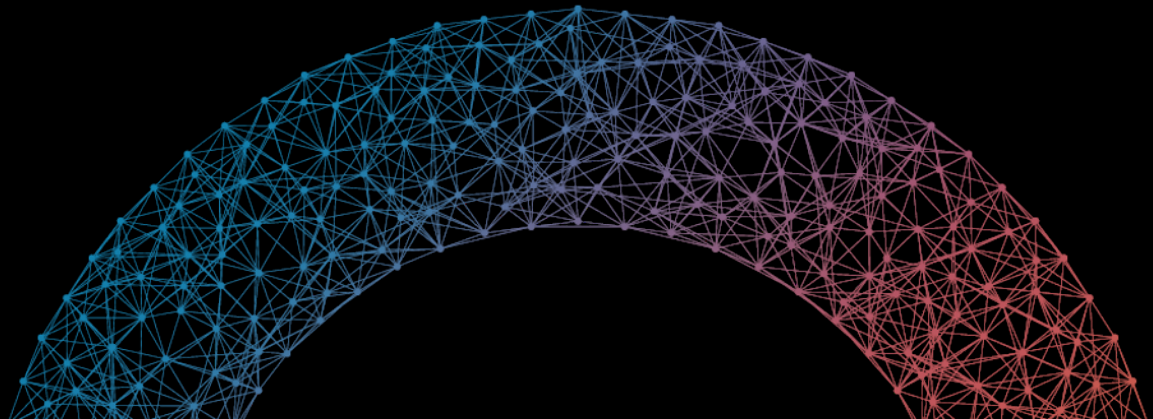
What It Really Looks Like

- Routines
- Rituals
- Rules
- Bias toward action



Accidental Complexity

- An easy trap to fall into
- It takes discipline and focus to keep to essential complexity



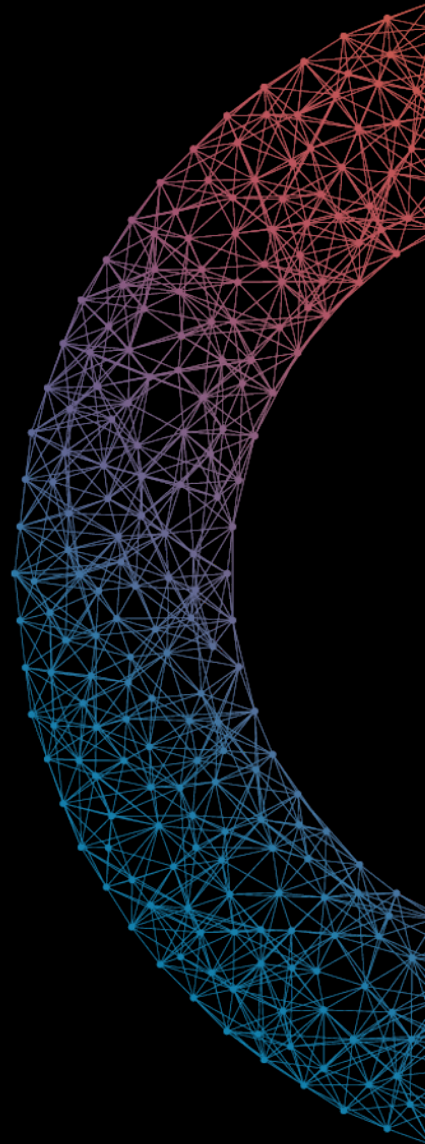


ember[®]

An Answer to Accidental Complexity

No More...

- Arguing about code structure
- Configuring build tools
- Dealing with asset fingerprinting
- Setting up test runners & assertion libraries
- Deciding on data flows & state management



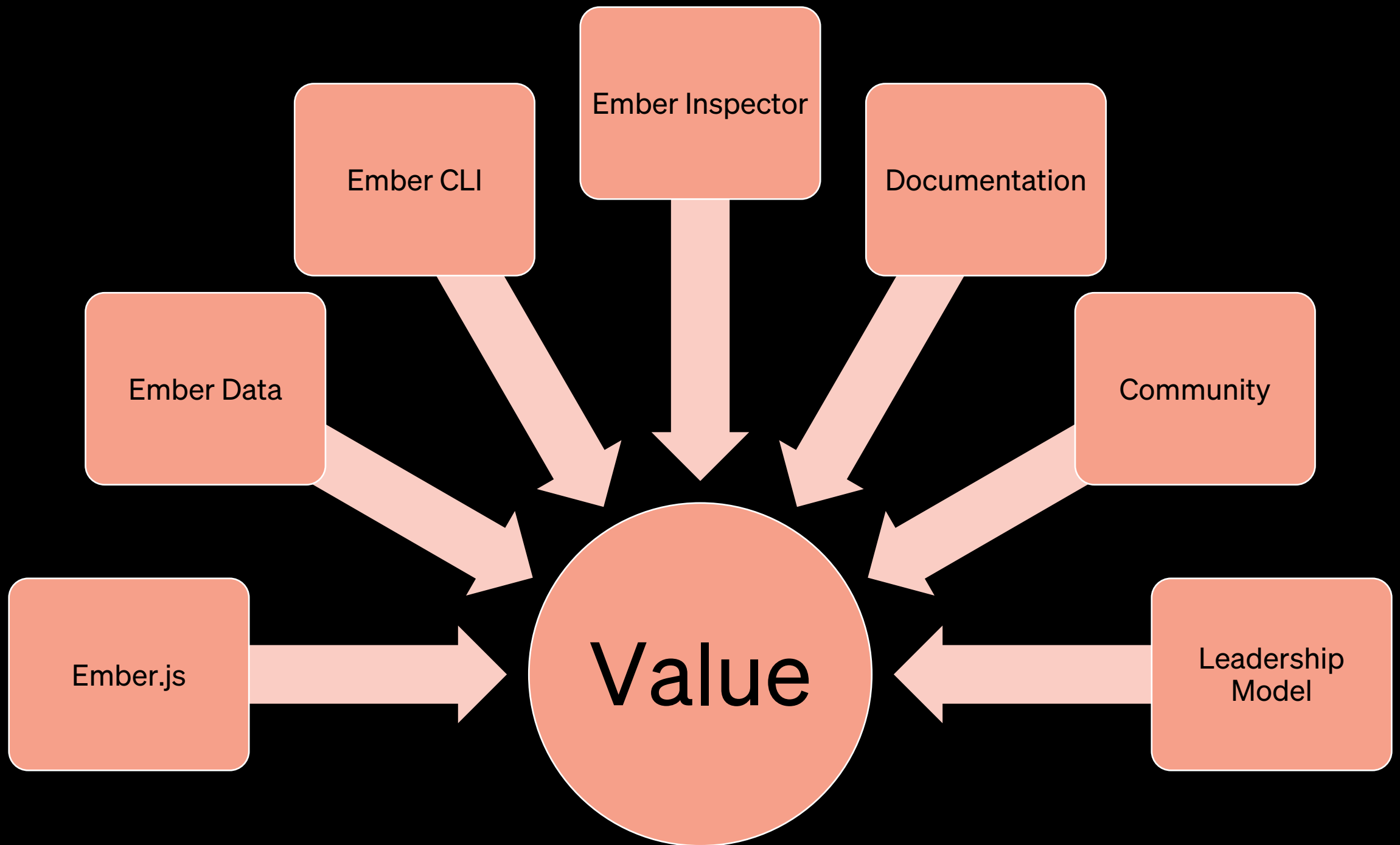
The Ember JS Framework

Ember.js

Ember Data

Ember CLI

Ember
Inspector





How much AI can a
framework offer?

An abstract graphic on the left side of the slide, consisting of a dense network of interconnected nodes and lines. The nodes are small dots, and the lines are thin, creating a complex web-like structure. The color of the lines and nodes transitions from orange at the top to blue at the bottom. The text is centered over this graphic.

How much A11y should a
framework offer?

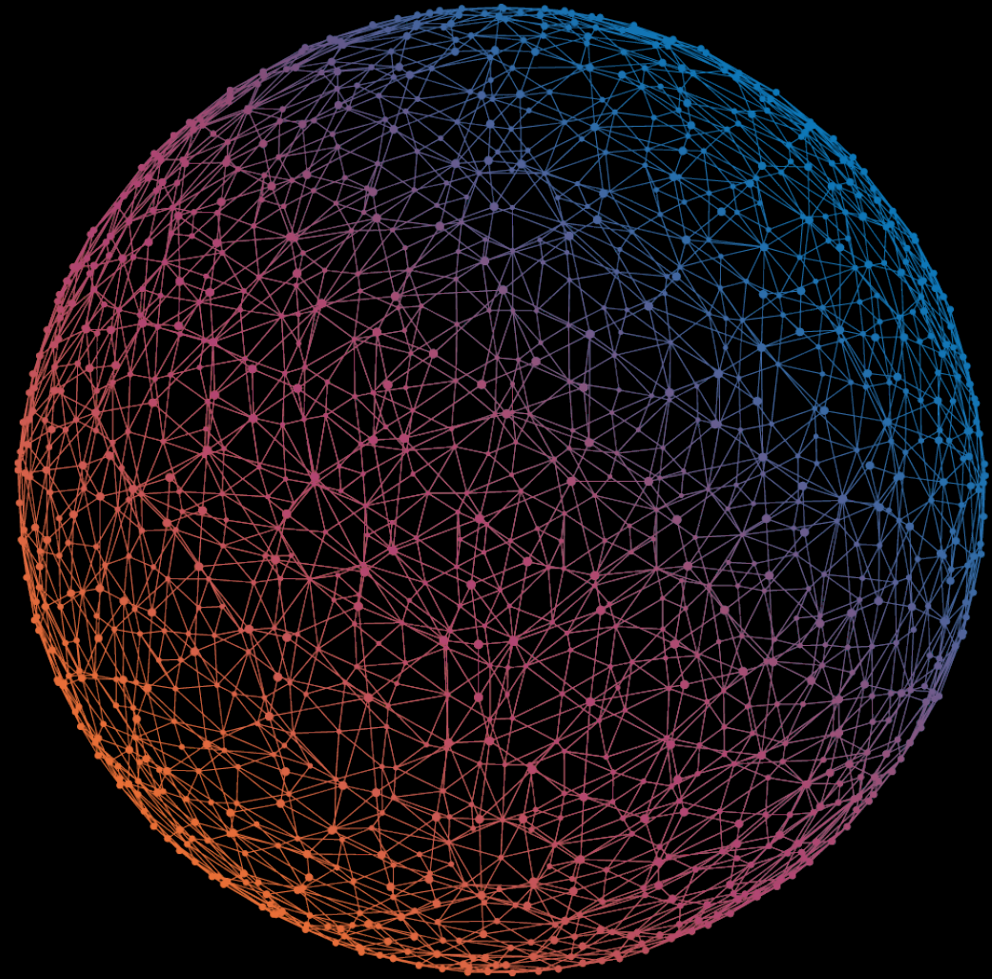
Common A11y Challenges

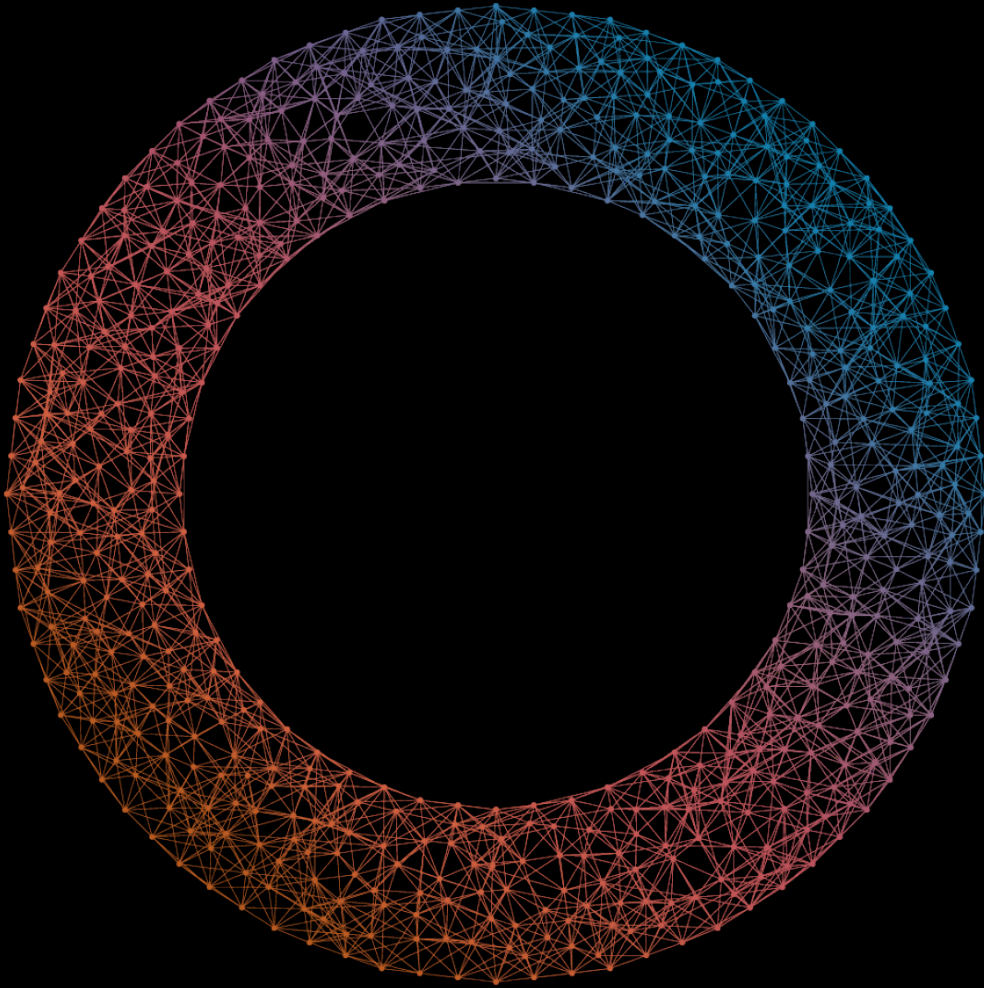
In JavaScript Applications



Routes

- Silence after page transition
- Lack of focus management
- User can think that an error has occurred



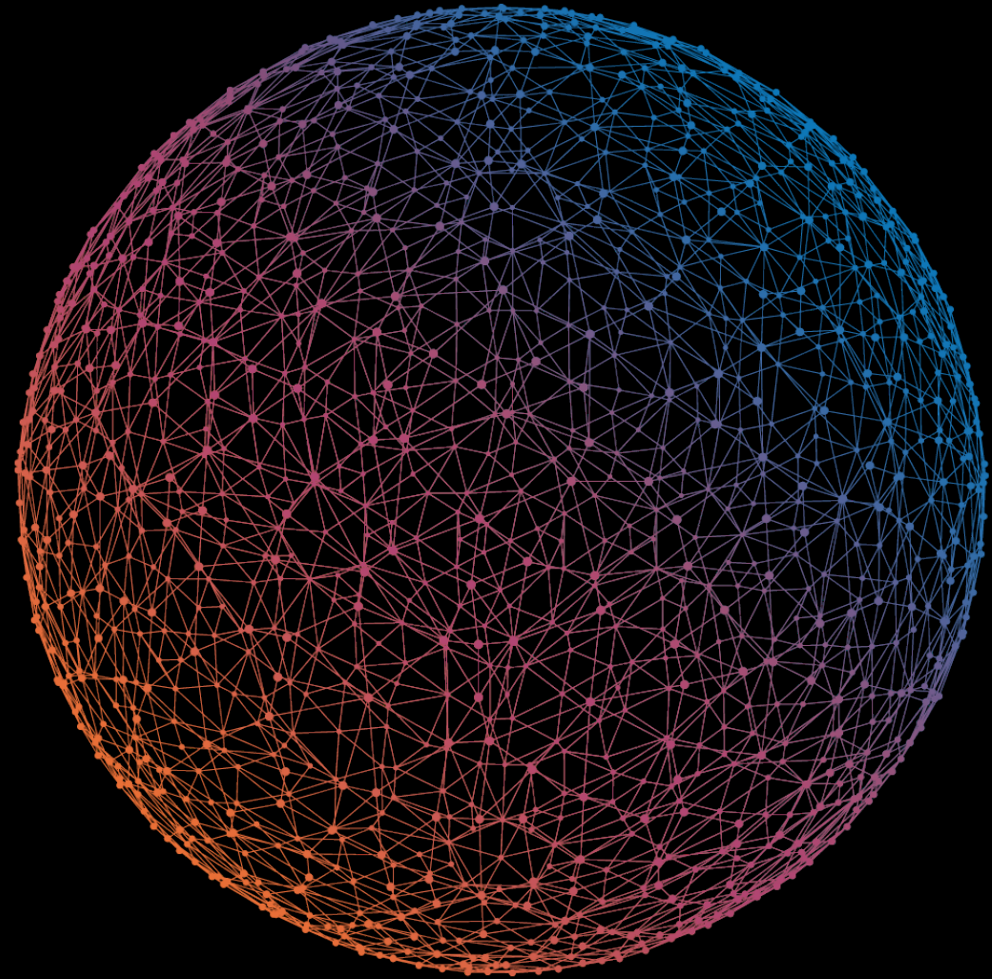


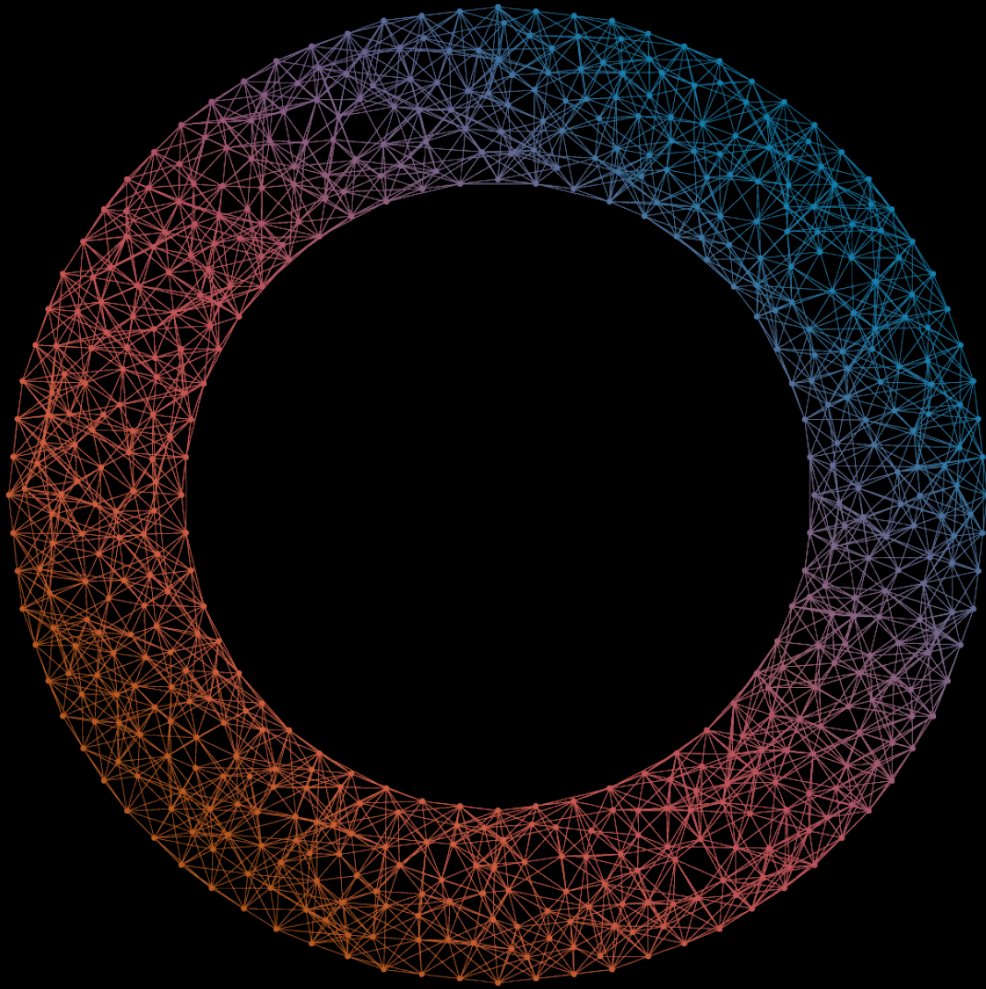
Page Titles

- Missing page titles
- One "page" layout can be used for many actual pages
- Header & footer stay the same, content is replaced
- Great DX, bad UX

Forms

- Inputs often missing accessible label elements
- Frameworks don't make this easier
- No guardrails





Visible Commitment

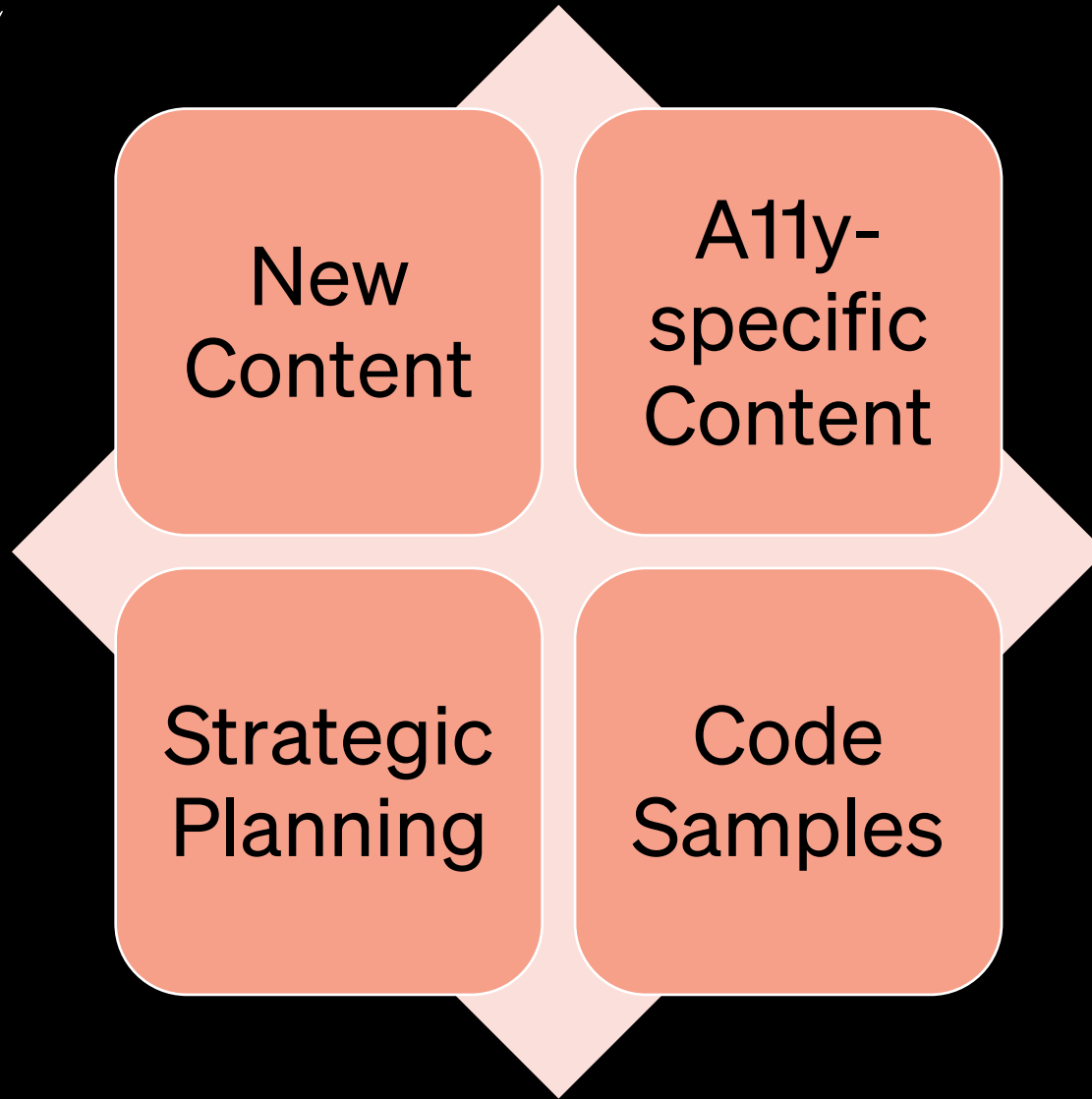
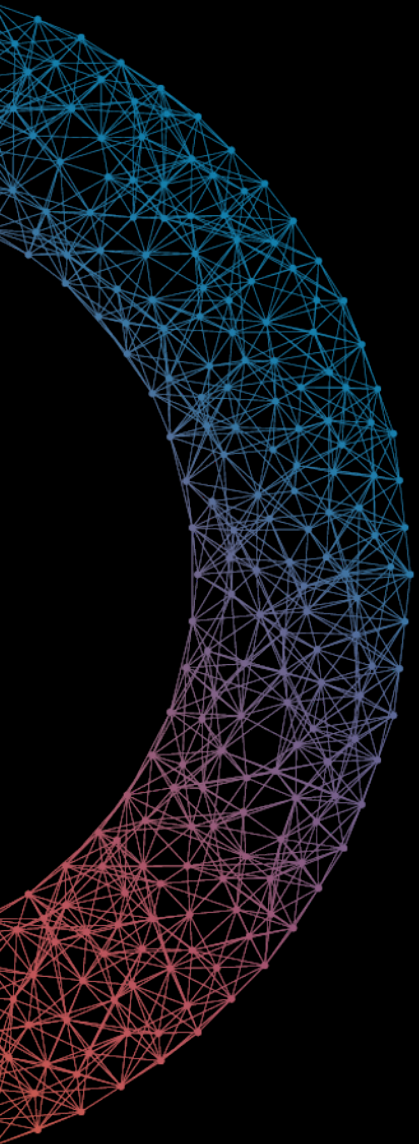
- Framework defaults
- Core values
- Documentation support
- Team up with the developer

Ember JS Framework

A Different Framework Choice

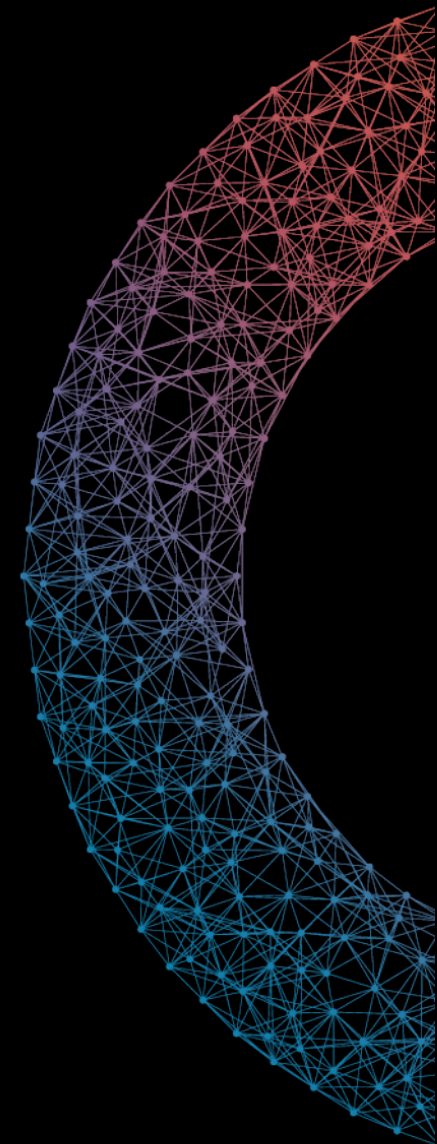


Documentation



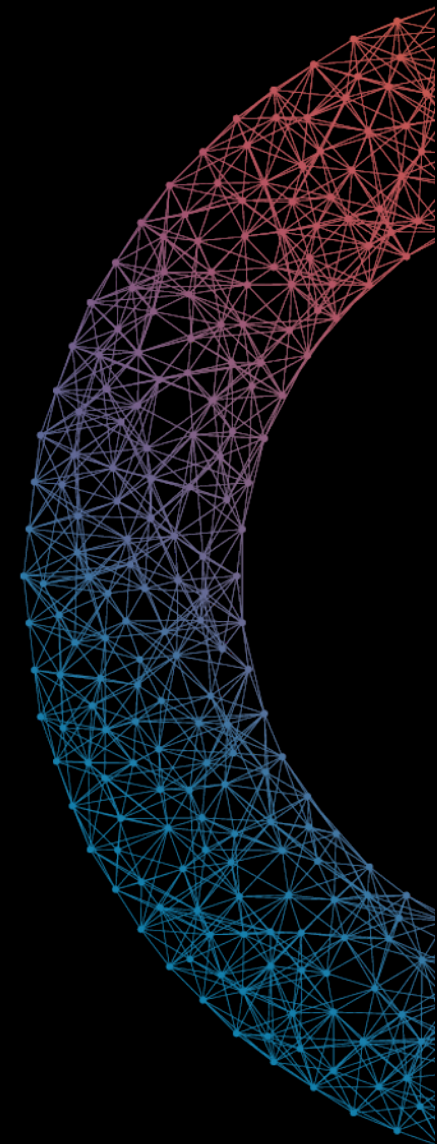
Routing

- Contributing to a whole web solution
- Addons as a stop gap
- Pick the solution that best fits your app
- Ember A11y
- Ember A11y Refocus
- A11y Route Announcer



Page Titles & Internationalization

- Page titles by default
- New option for lang: `--lang``
- ``ember generate my-app --lang fr``
- ``ember generate my-app --lang en-US``
- Linter support: ``require-lang-attribute``



A11y Automation

For Ember Applications



Available Tools



DYNAMIC ANALYSIS

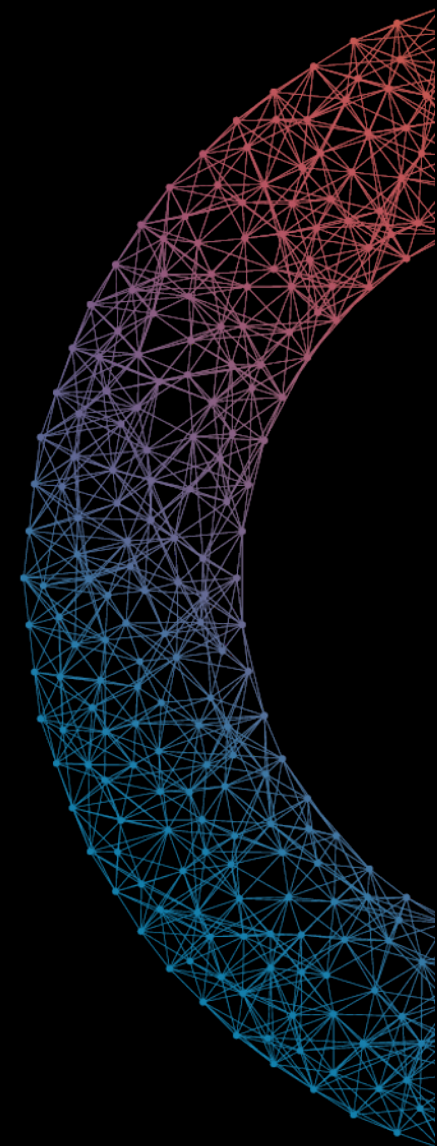
- Ember A11y Testing
- Lighthouse
- Microsoft Accessibility Insights
- aXe core

STATIC ANALYSIS

- aXe accessibility linting (vs code)
- Ember Template Lint

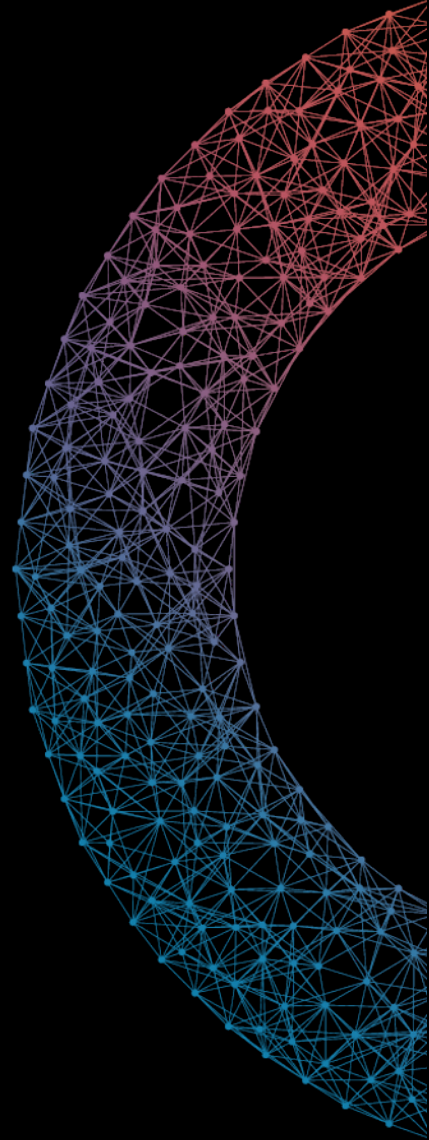
Ember Template Linting

- Comes by default in new Ember apps
- Evaluates .hbs and .html files
- IDE support
- Shareable configs
- New feature: todo



The Way Things Were

- Fix issues related to new rule
- Turn rule on
- Find new issues
- Problematic across big code bases
- Needed something more pragmatic

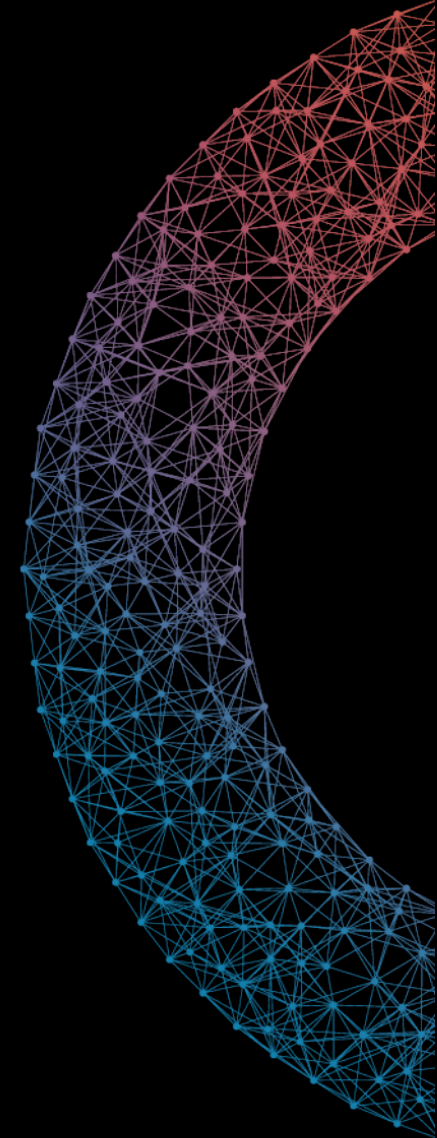


A New Todo

- Code we have vs. future code
- ``yarn lint:hbs`` to get lint violation count
- ``yarn lint:hbs --update-todo`` to create todos for existing code
- ``yarn lint:hbs --clean-todo`` to remove stale/expired todos

Coming Soon

- Configure by rule
- Separate by category- aka impact to end user
- Help developers prioritize-by-default



Past Code vs. Future Code



EXISTING CODE

- Create a todo
- Customize warn/error dates
- Plan to fix
- Be flexible

NEW CODE

- Immediately subject to rule
- Stop issues before they start
- Rollout new rules anytime

The Ember JS Framework Takes the GAAD Pledge

May 20, 2021 – By [Melanie Sumner](#)

As we join [Global Accessibility Awareness Day](#) (GAAD) in celebrating its tenth anniversary, we are delighted to announce that the [Ember JavaScript Framework](#) has taken the GAAD pledge **to make accessibility a core value of our framework.**

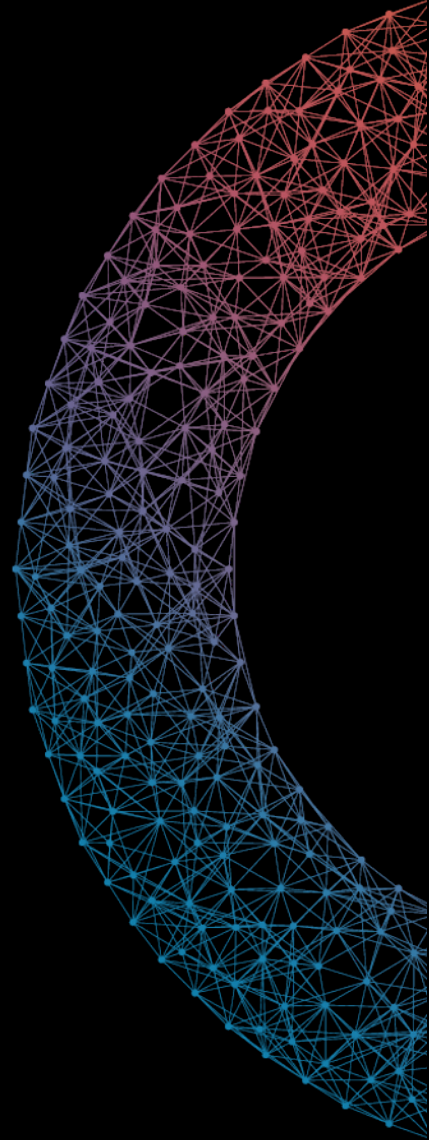
For those who know the project well, this will come as no surprise. It's no secret that we think that accessibility is an integral part of quality code. [Ember.js](#) is committed to providing a well-lit path for developer success, and our plans to make it easier for developers to write accessible code are part of that. In 2020, the Ember Accessibility Strike Team became the [Ember Accessibility Working Group](#), demonstrating our commitment to long-term accessibility growth in the framework.

The Work We Have Planned

- Additional a11y-related linting rules
- Continue accessible design overhaul
- Improve accessibility of code samples
- Easier input/label association in template-only components
- Interactive app creation to encourage good a11y choices

Recap

- Ember === productivity powerhouse
- Zero config
- Backwards-compatibility
- A11y support
- Community of shared solutions



The Community Welcomes Everyone

- Join Discord: discord.gg/emberjs (#topic-a11y channel)
- File an issue: github.com/emberjs/ember.js
- Help maintain a11y addons (github.com/ember-a11y)
- Email the core team: core@emberjs.com



Let's Stay In Touch!

- LinkedIn: <https://www.linkedin.com/in/melaniesumner/>
- Twitter: <https://twitter.com/melaniersumner>
- GitHub: <https://github.com/melsumner>

