

Consistently Accessible

Building Better Websites with Pattern Libraries

Marc Thorson and Stacy Carston

Accessibility Architects

Great Lakes Educational Loan Services, a Nelnet Company

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About Us

The Great Lakes Accessibility Team

- Stacy Carston
- Marc Thorson
- We support hundreds of developers and their agile teams with the goal of continually providing state-of-the-art products and services that are accessible to everyone.

Great Lakes Educational Loan Services, Inc.

- 50+ years of supporting student loan services for millions of borrowers and thousands of schools and lenders
- Technology-centric company focused on doing what's right
- Recently acquired by Nelnet

Where we were in 2013 - 2014

Major site redesign / overhaul

- Student loan borrowers use this site to manage their student loans
- Goals included modernizing the code base and responsive design
- Front-end quickly became very complex

Many new, internal-facing web applications

- Need to make these quickly and easily
- Lack of experienced front-end developers

Consistency is key

A consistent interface...

Is more beautiful

Builds brand recognition and customer trust

Is easier to use

A consistent interface is a
more **predictable** interface

It's also more accessible!

WCAG 2.0 Guideline 3.2 Predictable

- 3.2.4 Consistent Identification (Level AA)

Components that have the same functionality within a set of Web pages are identified consistently.

Users are happier 😊

So why not?

Websites are increasingly complex

Websites change over time

- Usually by adding more content

Multiple teams working on the same site

Lack of front-end expertise

- It's hard to keep up with the web

Pattern Libraries

What is a Pattern Library?

A collection of reusable UI/UX patterns

Can include:

- Interactive Examples
- Code snippets (HTML, CSS, JS)
- Guidelines & Instructions
- UI libraries (CSS, JS)

Cards

Usage

- **Use to hide and reveal non-essential information.** Content that is essential to a page or application should not be hidden.

Standard Card

Example



HTML

```
<article class="card">
  <div class="card-body card-object">
    <div class="card-side front ">
      <a class="card-title-link card-front-title card-
focused-links" href="#">
        <h2 class="card-title card-links no-
list">Standard Card</h2>
      </a>
      <div class="card-content">
```

Usage

Standard Card
Action Message Card
Alert Message Card
Flip and Link Example
Loading Spinner Card
Announcement Card

Building Our Pattern Library

Goals

Solve the challenges making consistency difficult

Reduce code duplication

Improve:

- Accessibility
- Responsive Behavior
- Overall code quality

Align patterns with brand standards

Building Our Own

Two parts

- CSS & JS libraries
- Documentation website to tie it all together

Why write our own UI libraries?

- Well-defined brand often conflicted with popular UI libraries
- Needed to be accessible

Our Approach

Collaboration between designers and developers

Versioning (SemVer)

- Many static assets are un-versioned

Identify common components

- Expand / Collapse
- Tab Panels
- Progress Tracker
- Message Boxes

Making Improvements

Focus on the components themselves

Refine appearance and behavior

Test in a variety of environments

- Browsers
- Assistive Technology
- Devices

Especially helpful for complex components or those using WAI-ARIA

Improving our Improvements

Providing more style documentation

- Colors, Typography, Grid System

Basic Components

- Buttons, Links, Form Elements

Build in accessible behavior as much as possible

Great Lakes' Pattern Library

CSS and JS libraries

Static Website with:

- Examples
- HTML & JS Code Snippets
- Usage Guidelines
- Instructions and Developer Notes
- Template for Prototyping and New Projects

What We Learned

Usage

It was popular!

- Expand / Collapse is the most used component

New hires can quickly get up to speed

Developers appreciated having these components readily available

- Saves time and money

Styling

Avoid conflict with existing styles

- We prefixed our CSS classes

Presenting the HTML, CSS & JS as a package makes it hard to imagine them with different styles

- Distinct styles for internal, business applications vs. external, customer facing websites

Maintenance

Maintenance is critical

- Need to be responsive about fixing bugs
- Needs to stay up to date with new technologies and the changing needs of your organization

Difficult to get time allocated

- Have a dedicated team
- Use a more “open-source” model
 - How to do this and ensure that new additions are properly tested?

Adoption

Most effective for new sites

Harder to integrate into existing sites

- Needs to work with existing styles
- Update existing patterns
- The larger the site, the harder this is

Consistently using the new patterns makes future updates easier

Summary

Consistent user interfaces provide usability and accessibility benefits.

Pattern libraries are an excellent tool to help your organization achieve that consistency.

Reusable patterns allow accessibility improvements to have a greater effect.

Questions?

Marc Thorson

- @marcoftheweb
- mthorson@glhec.org

Stacy Carston

- @stacycarston
- scarston@glhec.org