Final Project Draft 1

Fire Homepage: https://lafayetteco.gov/94/Fire-Department
Car Seat Checks: https://lafayetteco.gov/4087/Car-Seat-Checks
Fire Restrictions: https://lafayetteco.gov/2802/Fire-Restrictions
Recruitment: https://lafayetteco.gov/1975/Do-you-want-to-be-a-Firefighter
Emergency Preparedness: https://lafayetteco.gov/338/Emergency-Preparedness

Description

The city of Lafeyette's Fire department a emergency response agency for the city of Lafayette in Colorado. While focusing mainly on fire, the department handles multiples types of emergencies including structural/wildland fires, medical emergencies and life support, hazardous material incidents, and technical rescues.

The department has many community programs beyond just administering emergency response. The main program is the department's car seat safety checks to make sure car seats are properly installed for the safety of children. Also, the department monitors fire conditions and implements fire restrictions within Lafayette and Boulder Country. They do this using data from the National Fire Danger Rating System and weather services. The department also has a recruitment program with a fire academy that trains firefighters from other departments as well as newer firefighters

Firefighters follow a 48/96 schedule where firefighters work 48-hour shifts followed by 96 hours off. They focus on having great internal operations and community service.

Site Owner Interview

Interview scheduled with Abby Miller and Natalie Miller for July 24th, 2025, 2:30PM.

Interview Focus: The interview will look at the website's current state and future needs. Understanding primary user tasks and seeing the most used content and it's related issues will help prioritize redesign efforts. Learning about current problem areas in content management will inform our decisions on what is the most important aspects to focus on

Accessibility feedback from users, particularly those with disabilities and/or older residents, needs focus. Emergency communication methods and the website's role during critical incidents should be looked at especially. Mobile usage patterns, especially during fire season, will influence design decisions

Planned Interview Questions:

- What are the five most common tasks residents complete on the website (in relation to the pages we are looking at)?
- How does the department communicate fire restrictions and emergency information through the website and is there complaints?
- What accessibility-related feedback or complaints has the department received? (general question)
- Which user groups face the most challenges with the current site design? (mobile, screen readers, etc)
- How frequently do mobile users access the site during emergency situations? (If there's not statistics, ask for a rough estimate)
- Have people complained about not being able to use the fire restriction map or book car seat checks online? What do they do instead when the website doesn't work for them?
- During fire season, how does the department ensure residents with visual impairments get critical safety information, since the restriction levels only use color coding?

These may not be all the questions we will ask. If more questions arise in the week and a half leading up to the interview, we will add them

Remote User Test

Status: Potential Participant(s). Ali and Hassan both have people we have reached out to for user tests, we are just waiting for them to respond back.

Target Participant: The test requires participation from someone who relies on assistive technology or faces accessibility barriers. This person could be someone that uses screen readers, those with color blindness or other vision impairments, keyboard-only users, and those with cognitive issues.

Testing Priorities: The test will focus on critical user tasks:

- Locating current fire restriction status
- Booking a car seat safety check appointment
- Finding firefighter recruitment requirements and application process
- Navigating between fire department subsections
- Accessing emergency contact information quickly

Project Goals

Our goal is to redesign the site to fix the accessibility features found in the heuristic evaluation. We are focusing mostly on WCAG compliance and making emergency information access easier.

1. Keyboard Navigation and Focus Indicators

Address the barely visible focus outlines by implementing high-contrast borders. Add skip navigation links and ensure logical tab order throughout all pages. Fix keyboard traps in embedded content. (WCAG 2.4.7 Focus Visible, 2.1.1 Keyboard)

2. Heading Structure and Semantic HTML

Fix heading skip levels found on all pages (H1→H3/H4). Convert visual lists like the FAQs and quick links to proper ul and ol usages. Make sure navigation to recruitment page is consistent (WCAG 1.3.1 Info and Relationships)

3. Alt Text and Images

Replace generic alt text like "Fire Truck" with descriptive alternatives. Add alt text to all informational icons and graphics, especially the fire restriction map. Mark decorative images appropriately. (WCAG 1.1.1 Non-text Content)

4. Color Contrast Improvements

Increase contrast ratios from current 3.5-3.8:1 to meet 4.5:1 minimum. The fire restriction levels only have color indicators, so non-color indicators should be used. Fix low-contrast buttons and alerts. (WCAG 1.4.3 Contrast Minimum, 1.4.1 Use of Color)

5. Form Labels and Error Handling

There are placeholder-only labels, and they should be improved to have proper <label> elements on search bars and forms. There should be clearer error messages for screen readers and required fields should be marked more clearly. (WCAG 3.3.2 Labels or Instructions, 3.3.1 Error Identification)

6. Information Architecture and Emergency Access

There is basic critical safety information on the site’s homepage. Instead of relying on external links, the emergency preparedness content should be displayed easier and more accessible. The fire restrictions and emergency contacts need to be fixed to be immediately findable. In general, just improve the overall content organization.

Heuristic Evaluation

Date of Report: 7/12/25

Original Site URLs:

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Fire Restrictions: https://lafayetteco.gov/2802/Fire-Restrictions
Recruitment: https://lafayetteco.gov/1975/Do-you-want-to-be-a-Firefighter
Emergency Preparedness: https://lafayetteco.gov/338/Emergency-Preparedness

Methods:

1. Page Titles
    - Does each page have a unique and descriptive title (shown in browser tabs/windows)?
    - Does the title briefly and adequately describe the page's content?
2. Image Text Alternatives (Alt Text)
    - Does every meaningful image (pictures, illustrations, charts, etc.) have appropriate "alt text" that conveys its purpose or information?
    - Are decorative images hidden from screen readers (e.g., empty alt attribute `alt = ""`)?
3. Headings
    - Is all text that looks like a heading actually marked up as a heading (`<h1>`, `<h2>`, etc.)?
    - Is the heading hierarchy logical and meaningful (e.g., starts with `<h1>`, descends in numerical order)?
    - Are there any "skip levels" that break the logical structure?
4. Color Contrast
    - Is there sufficient contrast between text and its background?
    - Is there sufficient contrast for non-text elements like icons, buttons, or charts?
5. Resizing Text (Zoom)
    - Does the page remain readable and usable when text is enlarged when zooming the browser in?
    - Does content get cut off, overlap, or require excessive horizontal scrolling when zoomed?
6. Keyboard Navigation & Visual Focus
    - Can all interactive elements (links, buttons, form fields) be reached and operated using only the keyboard?
    - Is there a clear and visible indicator that shows which element currently has keyboard focus?

    - Does the tab order (the order in which elements receive focus) follow a logical reading sequence?
    - Are there any “keyboard traps” where you can tab into an element but not tab out of it?
7. Forms, Labels, and Errors
    - Are all form fields (text boxes, checkboxes, radio buttons, dropdowns) clearly labeled using `<label>` elements?
    - Are required fields clearly indicated (using asterisks, etc.)?
    - Are clear instructions provided for completing forms before users need them (e.g., specific date formats)?
    - When an error occurs in a form, is there a clear, easily findable, and helpful error message that guides the user to fix the problem?
8. Moving, Flashing, or Blinking Content
    - If there is content that automatically moves, flashes, or scrolls, does it have a mechanism to pause, stop, or hide it?
    - Does any content flash or blink more than three times in one second (which can trigger seizures)?
9. Multimedia Alternatives (Video/Audio)
    - Are captions provided for all video content (for people who are deaf or hard of hearing)?
    - Are transcripts or audio descriptions provided for audio-only content or for important visual information in videos (for people who are blind)?
10. Page Language
    - Is the primary language of the web page declared in the HTML (e.g., `<html lang = "en">`)?
11. Bypass Blocks (Skip Links)
    - Is there a “skip to main content” link (or similar) that appears at the top of the page when navigating with a keyboard? This allows users to bypass repetitive navigation.
12. Link Purpose (Clear Link Text)
    - Is the purpose of each link clear from its visible text alone, even when read out of context?
13. Consistent Navigation:
    - If navigation elements or repeated blocks of content appear on multiple pages, are they presented in the same relative order and with consistent labeling?
14. Basic Structure
    - Does the page content make sense when styles (CSS) are disabled, or when read by a screen reader?
15. Data Tables

    - If tables are used for presenting data (not just for layout), are they properly structured with the `<th>` (table headers) and `scope` attributes, or captions, so screen readers can interpret them?
16. User Control and Freedom
    - Can users easily undo actions or return to a previous state?
17. Recognition Rather Than Recall
    - Is information visible or easily discoverable, reducing the need for users to remember things from previous screens?
18. Aesthetic and Minimalist Design
    - Is the design clean and uncluttered, avoiding unnecessary information or visual distractions?
19. Help and Documentation
    - Is help information (FAQs, contact forms, search) readily available and easy to find?
20. Device Independence (Touch Targets)
    - Are interactive elements (buttons, links) large enough and spaced far enough apart to be easily tapped on touch devices (phones, tablets)?

Detailed Findings:

1. **Item:** Image Text Alternatives (Alt Text)

   Heuristic Questions: Does every meaningful image have appropriate alt text? Are decorative images hidden?

   Your Findings:

   - Fire Homepage: Hero image alt text is too brief ("Fire Truck"). Social media icons lack `alt = ""` or `aria-label`.
   - Car Seat Checks: Informational icons are missing alt text.
   - Fire Restrictions: The fire restriction map graphic has no alt text. A small “Last Updated” icon lacks alt text and isn't marked as decorative.
   - Recruitment: “Firefighters” alt text is too brief for the banner. Smaller badge icons (images of text) lack corresponding alt text.
   - Emergency Preparedness: Icons for emergency types are missing alt text and aren't marked as decorative.

   Recommendation and WCAG 2.1 language: Provide descriptive and informative alt text for all meaningful images. For purely decorative images or icons without text labels, ensure they have `alt = ""` or are hidden from assistive technologies. For images of text, ensure the full text content is provided in the alt attribute. (WCAG 2.1 SC 1.1.1 Non-text Content - Level A; WCAG 2.1 SC 1.4.5 Images of Text - Level AA for Recruitment)

2. **Item:** Headings

Heuristic Questions: Is all text that looks like a heading actually marked as a heading? Is the hierarchy logical? Are there skip levels?

Your Findings:

- Fire Homepage: Skips from H1 to H3.
- Car Seat Checks: Sub-sections are visually bolded but are div elements, not headings.
- Fire Restrictions: Skips H2 and H3, using H4 for sub-sections.
- Recruitment: Skips H2 and H3, using H4 for key sections.
- Emergency Preparedness: Sub-sections are bolded paragraphs or div elements instead of headings.

Recommendation and WCAG 2.1 language: Implement a logical and sequential heading hierarchy (H1, then H2, H3, etc.) using proper semantic HTML heading tags. (WCAG 2.1 SC 1.3.1 Info and Relationships - Level A)

3. **Item:** Color Contrast

   Heuristic Questions: Is there sufficient contrast between text and its background? (Especially for main content & important elements).

   Your Findings:

- Fire Homepage: Icons (white on blue) have a 3.8:1 ratio.
- Car Seat Checks: Icons (white on blue) have a 3.8:1 ratio.
- Fire Restrictions: Fire restriction level text (bright red on purple) has a 3.5:1 ratio.
- Emergency Preparedness: “Sign Up for Alerts” button (dark red on light red) has a 3.7:1 ratio.

   Recommendation and WCAG 2.1 language: Increase text color contrast to meet a minimum 4.5:1 ratio for normal text. For Fire Restrictions, avoid relying solely on color to convey status. (WCAG 2.1 SC 1.4.3 Contrast (Minimum) - Level AA; WCAG 2.1 SC 1.4.1 Use of Color - Level A for Fire Restrictions)

4. **Item:** Keyboard Navigation & Visual Focus

   Heuristic Questions: Can all interactive elements be reached and operated via keyboard? Is focus clearly visible? Is tab order logical?

   Your Findings: Barely any focus indicators, faint outlines but nothing else.

   Recommendation and WCAG 2.1 language: Enhance the visibility of keyboard focus indicators. Ensure all interactive elements, including custom widgets and embedded media, are fully operable via keyboard and that tab order is logical. Resolve any “keyboard traps.” (WCAG 2.1 SC 2.1.1 Keyboard - Level A; WCAG 2.1 SC 2.4.7 Focus Visible - Level AA; WCAG 2.1 SC 2.1.2 No Keyboard Trap - Level A)

5. **Item:** Forms, Labels, and Errors

Heuristic Questions: Are form fields clearly labeled? Are required fields indicated? Clear instructions? Helpful error messages?

Your Findings: Form fields lack proper labels, and error messages are often insufficient or inaccessible to assistive technologies.

- Fire Homepage: Search bar uses placeholder text instead of a `<label>`.
- Car Seat Checks: "Phone Number" field lacks persistent visual label; error messages not announced to screen readers.
- Recruitment: Embedded portal has input fields without visible labels (only placeholders); error messages are just red outlines.

Recommendation and WCAG 2.1 language: Provide explicit, programmatically associated `<label>` elements for all form fields. Ensure error messages are clear, specific, and announced to assistive technologies. (WCAG 2.1 SC 3.3.2 Labels or Instructions - Level A; WCAG 2.1 SC 3.3.1 Error Identification - Level A; WCAG 2.1 SC 4.1.3 Status Messages - Level AA)

6. **Item:** Consistent Navigation

   Heuristic Questions: If navigation/repeated blocks appear on multiple pages, are they consistent in order and labeling?

   Your Findings:

   - Recruitment: Does not have a consistent navigation bar on the side of the screen, unlike the other web pages.

   Recommendation and WCAG 2.1 language: Maintain the current consistent navigation patterns across the website. (WCAG 2.1 SC 3.2.3 Consistent Navigation - Level AA)

7. **Item:** Basic Structure (Meaningful HTML)

   Heuristic Questions: Does content make sense when styles are disabled? Is the reading order logical? Are lists actual lists?

   Your Findings:

   - Fire Homepage: "FAQs" and Quick Links are visual lists but not `<ul>` or `<ol>`.
   - Car Seat Checks: Instructional steps are visual lists using div elements.
   - Fire Restrictions: Has visual bulleted lists using CSS or character symbols.

   Recommendation and WCAG 2.1 language: Use appropriate semantic HTML elements for content structure. Specifically, mark up all lists (ordered and unordered) using `<ol>`, `<ul>`, and `<li>` tags. (WCAG 2.1 SC 1.3.1 Info and Relationships - Level A)

8. **Item:** Recognition Rather Than Recall

   Heuristic Questions: Is information visible/discoverable, reducing the need for users to remember things?

Your Findings:

- Emergency Preparedness: Has a list of external links that involve content that could benefit the page greatly if directly displayed on it.

Recommendation and WCAG 2.1 language: Ensure important information is easily discoverable and readily visible. For collapsible sections, use intuitive visual cues and labels. Summarize key information (e.g., restriction definitions, benefits) directly on the page, with links to full documents as needed. Highlight critical contact information. (WCAG 2.1 SC 2.4.6 Headings and Labels - Level AA, and general usability heuristics for memory load and information scent)

9. **Item:** Aesthetic and Minimalist Design

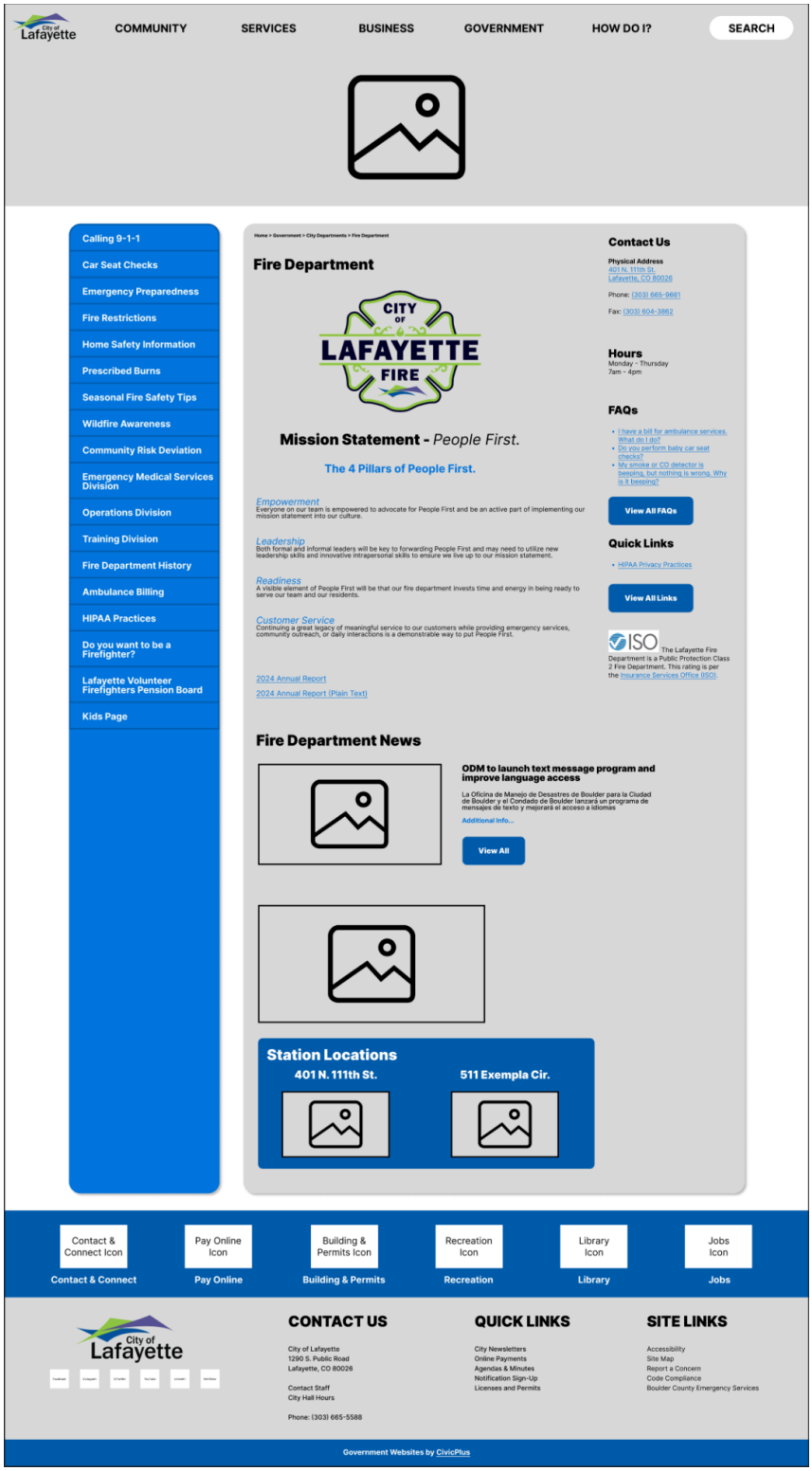
   Heuristic Questions: Is the design clean and uncluttered, avoiding unnecessary information or distractions?

   Your Findings: Some pages appear cluttered or text-heavy, affecting readability and user experience.

   Recommendation and WCAG 2.1 language: Improve visual hierarchy and readability by adding more white space, breaking up long paragraphs with shorter sentences or bullet points. Organize external links into clear, semantic lists. Refine sidebars to include only relevant content. Simplify busy background images to enhance text readability. (General usability heuristics for clarity, cognitive load, and readability)

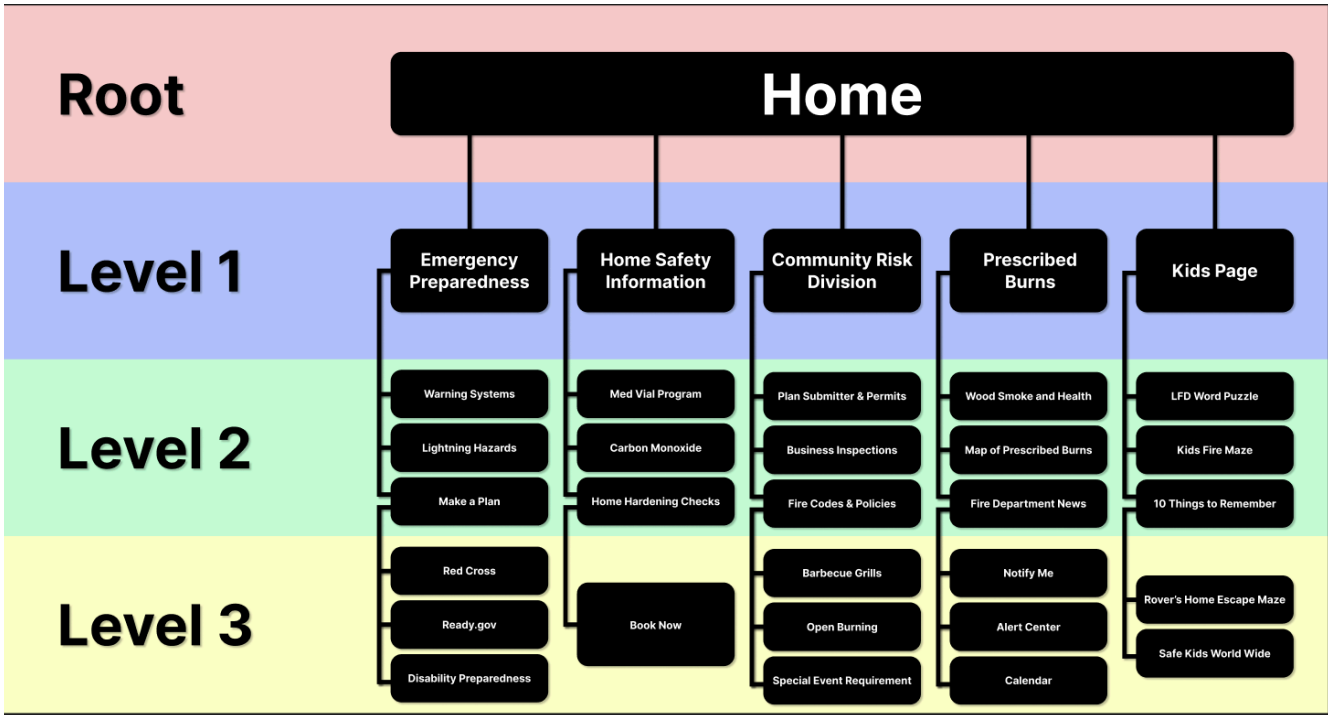
Wireframe

Figma Wireframe Link of Current Homepage


City of Lafayette
COMMUNITY
SERVICES
BUSINESS
GOVERNMENT
HOW DO I?
SEARCH
Calling 9-1-1
Car Seat Checks
Emergency Preparedness
Fire Restrictions
Home Safety Information
Prescribed Burns
Seasonal Fire Safety Tips
Wildfire Awareness
Community Risk Deviation
Emergency Medical Services Division
Operations Division
Training Division
Fire Department History
Ambulance Billing
HIPAA Practices
Do you want to be a Firefighter?
Lafayette Volunteer Firefighters Pension Board
Kids Page
Fire Department
CITY OF LAFAYETTE FIRE
Mission Statement - People First.
The 4 Pillars of People First.
Empowerment
Leadership
Readiness
Customer Service
2024 Annual Report
2024 Annual Report (Plain Text)
Contact Us
Physical Address
401 N. 111th St
Lafayette, CO 80026
Phone: (303) 665-9661
Fax: (303) 604-3862
Hours
Monday - Thursday
7am - 4pm
FAQs
I have a bill for ambulance services. What do I do?
Do you perform baby car seat checks?
My smoke or CO detector is beeping, but nothing is wrong. Why is it beeping?
View All FAQs
Quick Links
HIPAA Privacy Practices
View All Links
ISO
The Lafayette Fire Department is a Public Protection Class 2 Fire Department. This rating is per the Insurance Services Office (ISO)
Fire Department News
ODM to launch text message program and improve language access
La Oficina de Manejo de Desastres de Boulder para la Ciudad de Boulder y el Condado de Boulder lanzará un programa de mensajes de texto y mejorará el acceso a idiomas
Additional Info...
View All
Station Locations
401 N. 111th St.
511 Exempla Cir.
Contact & Connect Icon
Contact & Connect
Pay Online Icon
Pay Online
Building & Permits Icon
Building & Permits
Recreation Icon
Recreation
Library Icon
Library
Jobs Icon
Jobs
City of Lafayette
CONTACT US
City of Lafayette
1290 S. Public Road
Lafayette, CO 80026
Contact Staff
City Hall Hours
Phone: (303) 665-5588
QUICK LINKS
City Newsletters
Online Payments
Agendas & Minutes
Notification Sign-Up
Licenses and Permits
SITE LINKS
Accessibility
Site Map
Report a Concern
Code Compliance
Boulder County Emergency Services
Government Websites by CivicPlus

Site Map

[Figma Site Map]



Persona Profile

Background

- Name: Daniel Tate
- Age: 29
- Occupation: Freelance UX Designer
- Tate has worked in digital design for nearly a decade, graduating from the ATLAS Institute at the University of Colorado Boulder. He has moderate color blindness and experiences mild low vision during long screen sessions.

Main Points

- Has low vision and uses various assistive technologies (browser zoom and high contrast mode).
- Relies on keyboard navigation, spending a lot of time evaluating platform designs quickly and efficiently using the tab key and keyboard shortcuts.
- Occasionally utilizes a screen reader to reduce eye strain during long screen sessions.

Goals

- Effectively navigate websites and interfaces using only the keyboard.
- Know exactly where the focus is when tabbing through web pages.
- Understand the content of all visual elements, including both icons and images.
- Evaluate digital products for clients from an accessibility standpoint.

Frustrations & Pain Points

- Struggles to see focus outlines when they are styled with low contrast colors, thin lines, or are removed from web pages.
- Loses track of his position when tabbing through web pages, forms, and menus.
- Frequently encounters missing or unhelpful alternative text on images, infographics, and icons.
- Feels excluded from digital design platforms that do not consider visual accessibility.

Scenarios

- **Testing a sign-up form with keyboard navigation:** As part of an accessibility audit for a new client, Daniel begins testing their sign-up form using only his keyboard. He increases his browser zoom to 150% and turns on high contrast mode. As he tabs through the form fields, he loses his spot because the focus indicator is barely visible. Since he can't easily tell which input he's on, he makes numerous mistakes while filling out the form. He has to slow down and click manually, which defeats the purpose of keyboard navigation and wastes his time.
- **Exploring icon-heavy dashboards with a screen reader:** Upon signing in, Daniel explores a platform's dashboard filled with unlabeled icons and images. To reduce eye strain, he activates his screen reader to identify the controls. Most buttons are either skipped or announced generically as "button," offering little to no context. Without proper alternative text or ARIA labels, Daniel can't figure out what actions these icons perform. He's forced to guess based on visual layout or just give up entirely.
- **Evaluating visual design in high contrast mode:** Daniel often reviews design mockups and live interfaces in high contrast mode to simulate how users with low vision might experience them, as well as be able to navigate this design himself. While reviewing the platform's new updates, he notices that key UI components like dropdown menus and navigation links disappear entirely or become unreadable because of poor contrast. Light-colored text on light backgrounds becomes illegible. Even elements like checkboxes and active states lose their visibility.

Persona Cognitive Walkthrough (5 pts. Extra Credit)

Requirements

- Conduct a persona cognitive walk-through of the redesigned site. Report on your findings. Guidance on conducting a persona walk-through is provided on the Fluid site. (This is the same activity we did in optional Assignment #7 and covered in 3150)
- **Note:** Use the *Cognitive Walkthrough Report Template* under *Class Resources & Files -> Report Templates* on the course site.