

Case Study:

Accessibility-First Redesign

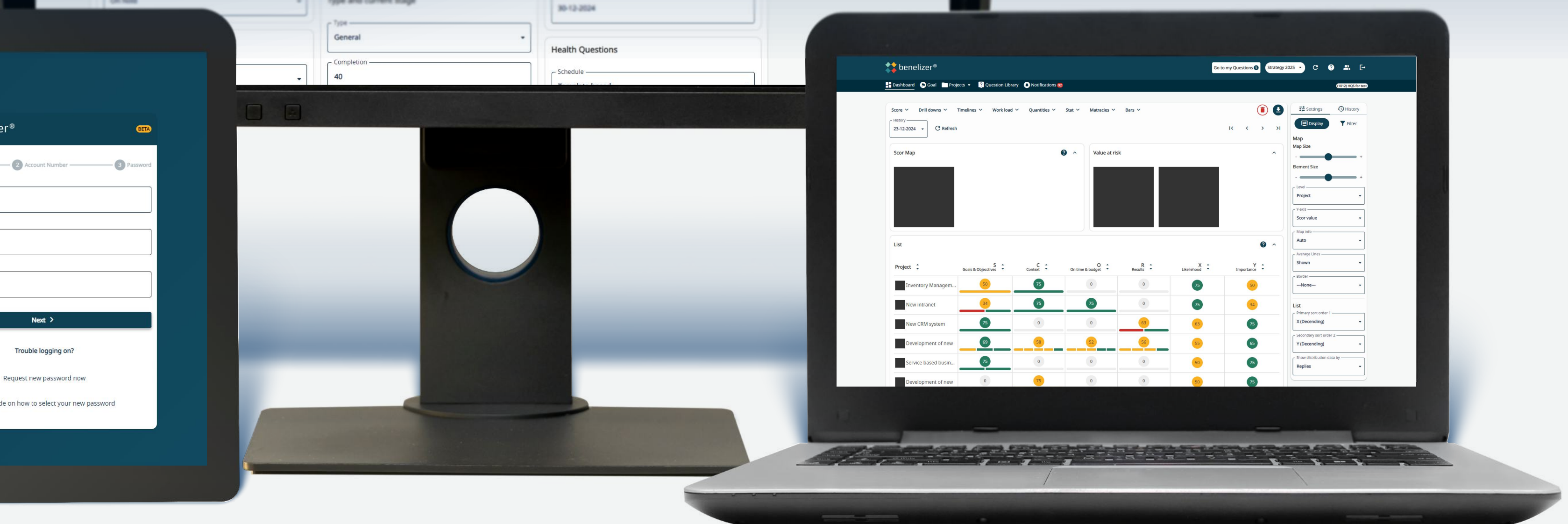


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Project Overview

Case Study: Accessibility-First Redesign for Benelizer
Balancing AAA Compliance and Strict Technical Constraints in 10 Days

Role

UX Designer & UX Engineer
(Freelance)

Client

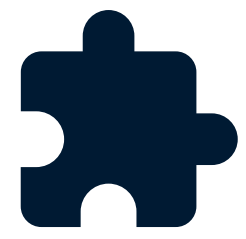
Benelizer
(Stakeholder: Erik Maltby)

Duration

~10 Working Days

Core Impact

Rebuilt the internal web app UI to meet WCAG AAA accessibility standards using a zero-JavaScript framework (pure HTML/CSS) fully aligned with a custom Figma design system.



The Challenge & Project Context

Benelizer required a complete front-end redesign of their internal web application. The project came with a highly unusual and strict combination of constraints:

Accessibility Failures

The initial interface failed basic Web Content Accessibility Guidelines (WCAG) compliance.



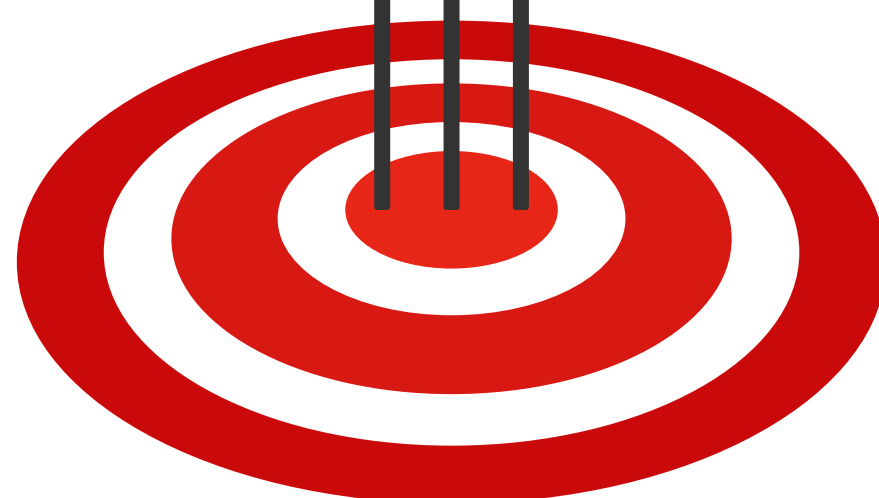
Hard Technical Boundaries

The existing backend could not be modified, and the project explicitly prohibited the use of JavaScript on the front-end.



Performance & Scale

The architecture required minimal, lightweight markup & optimized CSS for speed, alongside a scalable system to bridge design-to-development workflows.



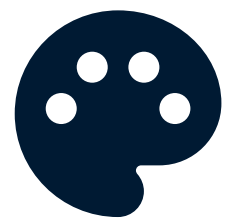
🔍 Discovery & UX Research

To ground the design decisions in user reality rather than assumptions, I initiated a rapid discovery phase:



Strategic Pivot:

Based on the ecosystem research, I deliberately chose a visual direction heavily inspired by Material Design. By leveraging design patterns users already interact with daily, we drastically reduced the cognitive load and learning curve.



Design & Engineering Strategy

User Insights

Google Ecosystem

Design System

Material-Inspired Figma Kit

Implementation

Semantic HTML5 +
Pure CSS Framework



Accessibility-First Architecture:

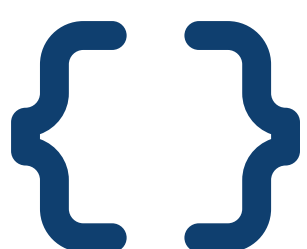
Instead of treating compliance as an afterthought, accessibility dictated the code. I used structural Semantic HTML5 elements to guarantee native screen reader compatibility and keyboard navigation.

HTML

The Zero-JS Front-End Framework:

To respect the technical constraint of zero JavaScript, I built a modular, responsive front-end framework from scratch using CSS Flexbox.

- Simulating Dynamic UI: I engineered interactive states (active form validations, animated tooltips, and floating labels) entirely through CSS pseudo-elements (:focus-within, :valid, :invalid, :after).
- Custom Asset Pipeline: Generated a custom icon font tailored to Benelizer's UI requirements, minimizing HTTP requests and ensuring crisp rendering at any scale.



Component-Driven Alignment

I built a dual-system architecture. The scalable component library in Figma perfectly mirrored the coded HTML/CSS class infrastructure. This structural alignment allows future design variations and developer implementation to happen in parallel without misalignment.

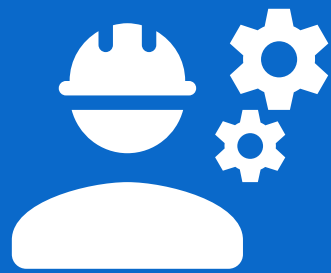


Outcomes & Business Value



100% Compliance

All rebuilt UI components successfully passed rigorous WCAG AAA accessibility evaluations.



Technical Proof of Concept

Delivered a fully responsive, modern interactive front-end with zero bytes of JavaScript, ensuring absolute separation of concerns and maximum performance.



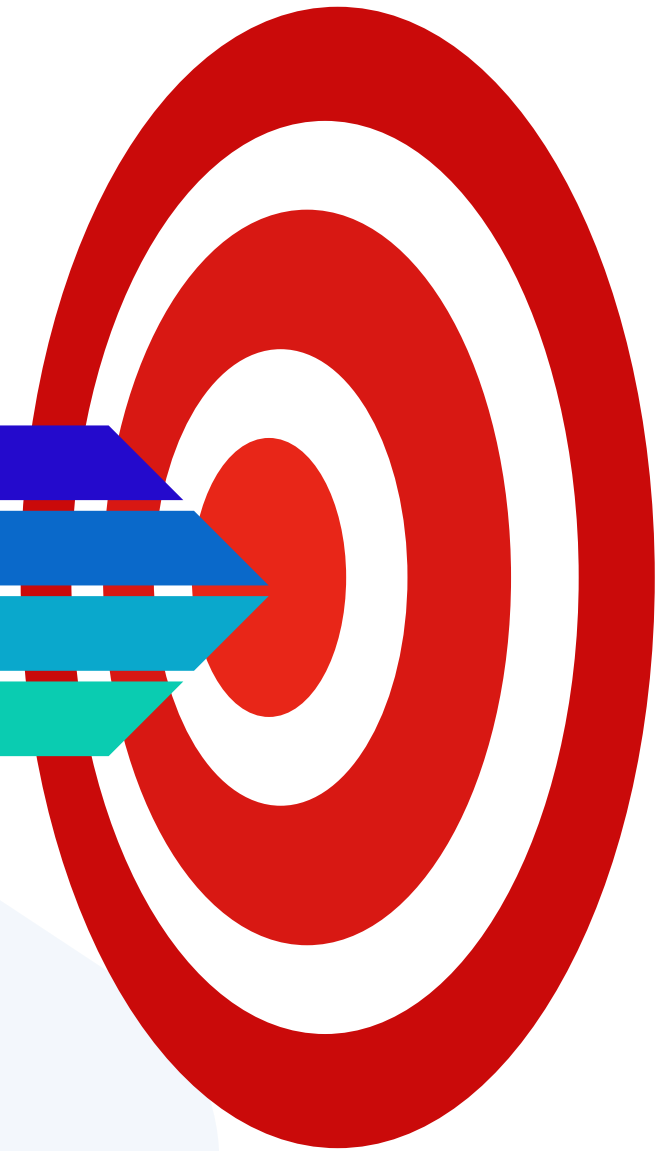
Design Velocity

The synchronized Figma-and-Code design system established a single source of truth, empowering the team to scale features autonomously.

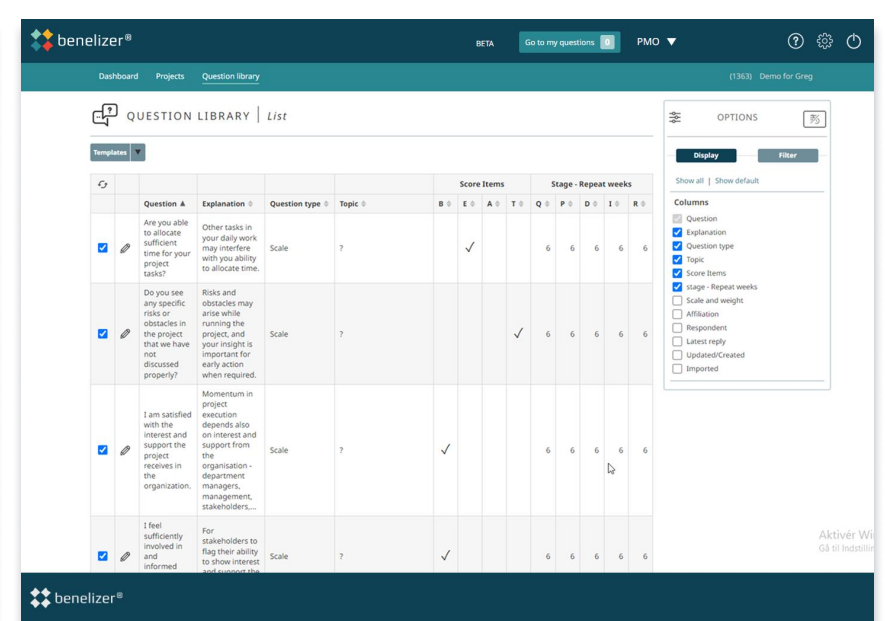
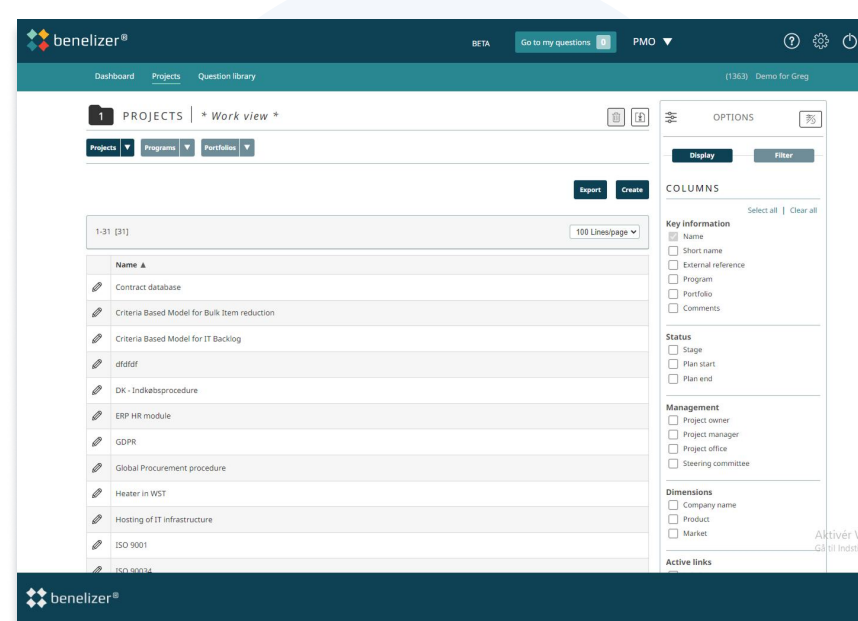
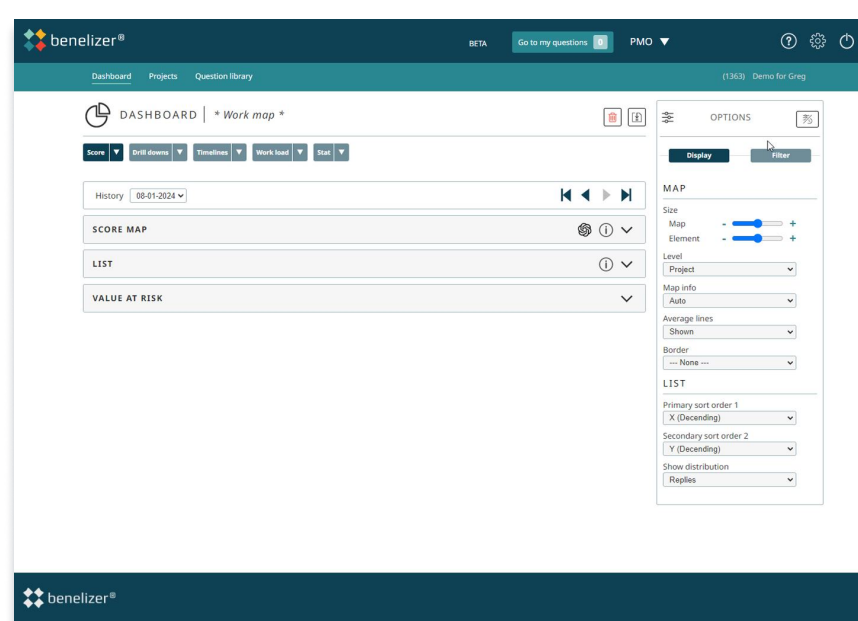


Agile Delivery

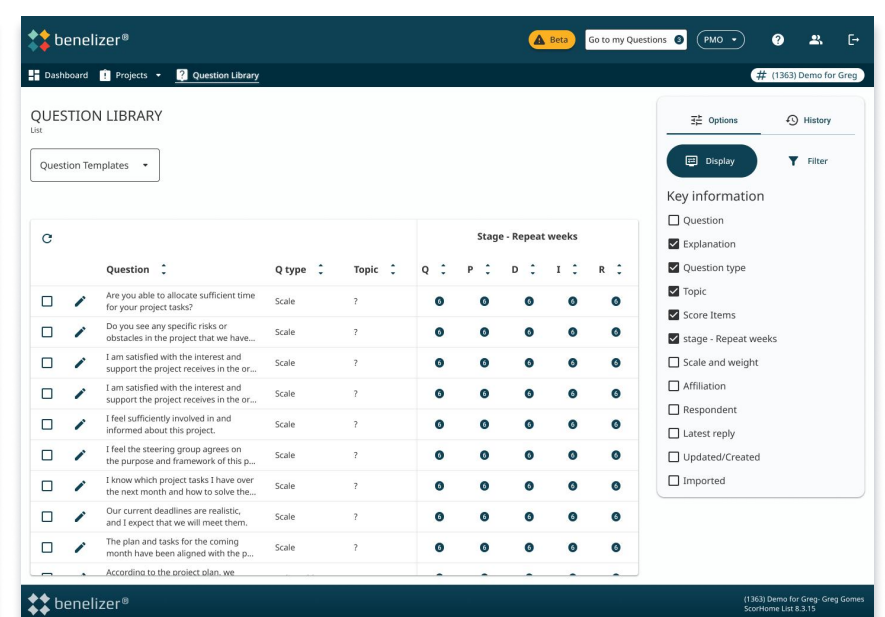
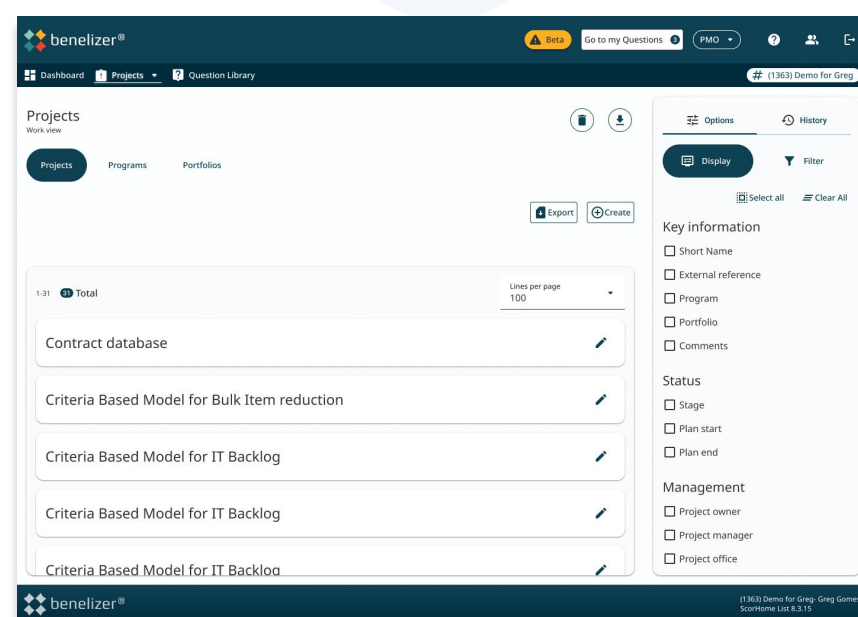
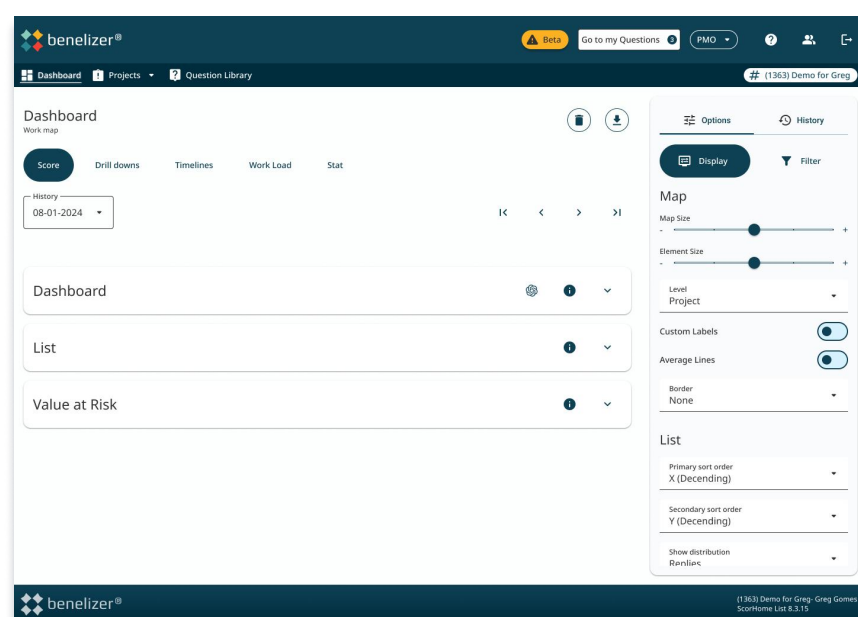
Executed the entire pipeline from the initial audit to the final production-ready front-end framework within the 10-day sprint.



Before



After





Key Learnings

1

Constraints Supercharge Innovation

Removing JavaScript forced a deeper, more sophisticated utilization of advanced native CSS and HTML capabilities.

2

Context Dictates Form

Aligning the UI with the users' native Google ecosystem patterns proved that intuitive design is often about familiarity rather than reinventing the wheel.

3

Figma-to-Code Parity

True efficiency happens when the designer's canvas and the developer's framework share the same structural logic (Object-Oriented UX).