

Evolving UI Design: CNN's Article Elevate

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Rashid Bah

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Technical Project Team Members

Rashid Bah

On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

Advisor

Briana Morrison, Department of Computer Science

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ABSTRACT

Modern digital platforms must balance innovative design with inclusive user experiences, a challenge underscored by media giants like CNN. During my internship on CNN's Web Foundations Team, I examined the "Article Elevate" project, which sought to optimize article layouts and navigation elements using CNN's proprietary Stellar framework, driving both functional and aesthetic improvements. Through agile development, we implemented flexible, reusable components and refined the site's responsive design to reach a diverse user base. As a result, CNN's article presentation became more coherent, accessible, and scalable across devices. A live deliverable of my work during this internship was redesigning CNN's navigation bar, which is currently being used on their live website. Future expansions include more extensive A/B testing, and additional documentation to ensure long-term maintainability and inclusivity.

INTRODUCTION

Media websites face immense pressures to remain competitive in a rapidly shifting digital environment. Audiences expect speed, seamless navigation, and visually appealing layouts, all of which need to function reliably across multiple devices. At the same time, inclusivity and accessibility have emerged as non-negotiable requirements for modern platforms (Nielsen Norman Group, n.d.). Developers must reconcile these demands while adhering to organizational brand guidelines and performance standards.

During my internship at CNN, I engaged directly with these challenges on the Web Foundations Team. My primary responsibility was to update article layouts and key navigation

components under the “Article Elevate” initiative. Specifically, I worked with CNN’s Stellar framework, a proprietary system designed to provide a modular, scalable foundation for site-wide enhancements. While CNN’s engineering teams had to balance design ambitions with usability and performance considerations, my role highlighted the importance of collaboration—both within and across teams—to manage dependencies and ensure consistent user experiences. My task was managing the evolution of the “Article Elevate” project and situating it within broader trends in web design innovation and accessibility.

RELATED WORKS

Literature on web design and user experience (UX) consistently underscores the significance of inclusivity and consistency in modern interfaces (Interaction Design Foundation, n.d.). Early web design practices, often constrained by rudimentary HTML and limited bandwidth, gave way to more dynamic, user-centered approaches as digital platforms matured. Scholars like Norman (2013) have emphasized that user satisfaction stems from intuitive interfaces just as much as from visual allure, while others have pointed to the ethical dimensions of accessibility in design (Friedman & Kahn, 2002).

CNN’s emphasis on both innovation and accessibility aligns with broader industry best practices. For example, IBM’s design ethos prioritizes user empathy, iterative testing, and inclusive patterns as essential elements of professional software development (IBM, n.d.). Similarly, Latour’s Actor-Network Theory (2005) offers a framework to understand how various stakeholders— developers, users, design tool providers, and accessibility advocates—collectively shape new features. Indeed, large media platforms must integrate these diverse perspectives to remain viable. By employing modular frameworks like CNN’s proprietary Stellar

system, development teams can iterate more fluidly while maintaining brand identity, responsive layouts, and accessibility standards. Taken together, these insights from both commercial and academic sources frame the strategic and ethical imperatives guiding projects like “Article Elevate.”

PROJECT DESIGN

The Article Elevate project was designed to improve CNN’s article presentation by modernizing layouts and optimizing navigation using CNN’s proprietary Stellar framework. By leveraging the Stellar framework, the Article Elevate initiative focused on streamlining UI components while maintaining the flexibility needed for future iterations. The goal was to maintain visual consistency across pages while enhancing aesthetics, responsiveness, and accessibility. Given CNN’s extensive digital footprint, updating the UI without disrupting the existing ecosystem required a strategic, modular approach. Key design priorities discussed included:

- **Scalability**--Ensuring the framework allowed seamless integration of new UI elements.
- **Consistency**—Maintaining CNN’s branding while introducing a refreshed, modern aesthetic.
- **Accessibility**—Adhering to Web Content Accessibility Guidelines (WCAG 2.1) to enhance usability for all readers.
- **Performance Optimization**—Balancing high-quality visuals with fast load times.

Learning and Documenting the Stellar Framework

One of the earliest hurdles was the lack of comprehensive documentation for the Stellar framework. To mitigate this, I quickly adapted by studying existing components and contributing to documentation to support future developers. This effort streamlined future updates, ensuring that future team members would have clearer guidelines for working within Stellar.

Navigation Bar Redesign

The navigation bar was one of the most complex UI components, existing in multiple variations across CNN.com. My role involved:

- Complete HTML/CSS Rework.
- Standardizing design elements while preserving section-specific customizations (e.g., CNN Crime).
- Implementing a modular design that allowed reuse across different sections. This redesign significantly improved code maintainability and ensured a uniform user experience. The new navigation bar is now live on CNN's website.

is_Elevate and elevate_When_Needed Functions

To further streamline UI updates, I helped **implement** `is_Elevate` **and** `elevate_When_Needed`, two complex JavaScript functions that enabled dynamic UI enhancements without requiring entirely new components. These functions:

- Allowed for selective application of “elevated” article elements based on page structure.

- Reduced redundancy in UI code, making it easier to maintain. (1000+ lines of redundant code).
- Increased developer efficiency, as changes could be made without rewriting entire sections of code. By integrating these functions, we ensured that CNN's digital platform could evolve without introducing unnecessary complexity.

Collaboration and Development

The development process was structured around ticket grooming sessions, where team members reviewed tasks and prioritized them based on complexity. Collaboration across design, product, and engineering teams was essential to align UI updates with both editorial needs and user expectations.

- Figma mockups guided UI development, ensuring designs met CNN's branding guidelines.
- Slack, Outlook, and Confluence facilitated communication between designers, engineers, and product managers.
- Iterative testing allowed for rapid feedback cycles, ensuring updates were validated before deployment.

Keeping an agile environment was the only way to manage the complexities of large-scale UI updates. The ability to adapt quickly, collaborate across teams, and refine changes through continuous feedback ensured a smooth rollout of Article Elevate components. With so many moving parts and interdependencies, this approach was essential to delivering a functional and scalable solution.

RESULTS

The redesigned navigation bar is now fully live on CNN's website, marking a major milestone in improving the platform's user experience. In addition to the navigation bar, I reworked four other front-end components to create a more consistent and maintainable design across different sections of the site. These updates helped streamline UI elements, reduce redundant code and ensure a more cohesive look and feel throughout CNN's digital platform. Working within the constraints of the Stellar framework, these changes reinforced the importance of designing scalable and adaptable components that can evolve with the platform's needs.

To understand how these updates impact user engagement, a small-scale A/B testing phase is planned for Article Elevate. A/B testing allows different versions of a webpage to be shown to separate user groups, making it possible to compare their performance based on key engagement metrics. For this rollout, the testing will focus on time on page, measuring whether the improved readability encourages users to stay longer; bounce rates, tracking whether users navigate away less frequently due to a more seamless experience; and load times, ensuring that the new design does not slow down performance. These insights will help fine-tune the final implementation and ensure that the UI updates provide a meaningful improvement in user experience.

CONCLUSION

The Article Elevate initiative responded to a growing need within CNN's digital platform: making the user experience more consistent, readable and accessible across a wide

range of devices. As more users engage with content online, it becomes increasingly important for large-scale websites to offer interfaces that are not only visually updated but also easy to navigate and inclusive to all. This work contributed to those goals by improving key parts of the site—most notably the navigation bar—and revising several interface components to bring greater cohesion to the user experience.

These changes are meaningful not just for the way the site looks, but for the way it functions behind the scenes. Cleaner, more modular code allows for easier updates down the line, while a focus on accessibility and responsiveness makes the platform more usable for a broader audience. Through this process, I gained firsthand experience working within a complex engineering environment and saw how thoughtful design and collaboration can lead to real impact. The experience reinforced the importance of building with flexibility and users in mind, lessons that will continue to shape my approach to software development.

FUTURE WORK

One of the next major steps for Article Elevate is the rollout of A/B testing to a small percentage of users. The data collected from these tests—on metrics like time on page, bounce rates, and load times—will be crucial in evaluating how well the updated design is performing in the real world. Depending on the results, adjustments can be made to further optimize the interface before a full-scale launch, ensuring that user experience continues to improve in meaningful ways.

During my time at CNN, there were also early conversations around using AI to make the site even more dynamic. Ideas included personalizing layout structures based on user behavior or

automatically adapting article formatting to better suit different reader preferences. While still in the exploratory stage, these discussions show how emerging technologies could be integrated into the UI workflow to make content even more engaging and accessible. Building on the foundation laid by Article Elevate, these types of innovations represent the next frontier of modern, user-centered web development.

7. ACKNOWLEDGMENTS

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