The Micronutrient Information Center

MICBridge: Using data to understand & improve the user experience of a technical site

MIC AT OSU AIMS TO REVOLUTIONIZE USER EXPERIENCE AMIDST ANALYTICAL CHALLENGES

The Micronutrient Information Center (MIC) is a center at Linus Pauling Institute within Oregon State University. The center is a reputable source on micronutrients but struggles with understanding its audience and improving its website user experience. With An initial focus on content delivery, the site design overlooks user engagement.

MIC has used tools like Google Analytics 4 to analyze and record user traffic, however, much was unknown about the user interactions. The center's team is keen on enhancing user experience while maintaining their authoritative reputation, though they were missing a clear strategy to do so. An additional goal of the center was to introduce modern website features to better engage users and identifying a few potential areas for improvement as they work to bolster their data analysis capabilities.

To **solve the problem**, we worked with the MIC to understand their users and ultimately implement some solutions through code.

- Analyzed use cases and user survey data to produce new website designs and design guidelines (Fig. 1).
- Created MICBridge, an API, comprehensive web scraping and content enhancement tool that is meant to bridge the gap between dynamic user engagement and static content (Fig. 4).

Oregon State University

UNDERSTANDING USER EXPERIENCE

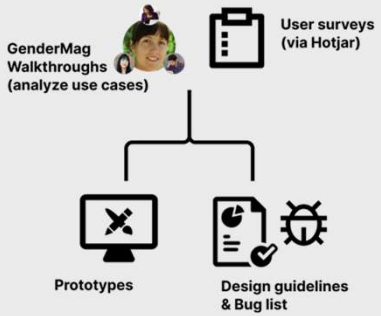

Fig. 1. Our process involved collecting user surveys through Hotjar and examining use cases on the website using the GenderMag Cognitive walkthroughs.

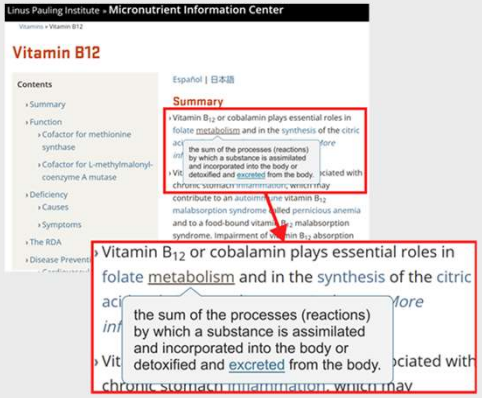

Fig. 4. To see definitions of terms, users will be able to hover on them instead of clicking to navigate to a separate glossary page. This is made possible with the MICBridge API.

Subgoal	Action	Facets	Critique (what was the issue)	Priority Level
#2 Finding specific information on prevention/ treatment (CR cancer)	(1a) Scroll Down	Attitude Towards Risk	The information at the top doesn't match goals (keywords for treatment/prevention not seen; not in sidebar?). Not descriptive enough about where you are or what the article is about. …	Medium-high

Fig. 2. Cognitive walkthroughs allow us to walk in a user's shoes, through a persona, as they go through a use case (a goal) in some product. Through two sessions, we found 8 bugs and one of the bugs is shown above.

Fig. 3. Surveys were shared on the website directly. Uses were asked to rate their experience on navigating the site and what improvements they would like to see. Overall, users were satisfied however we learned many of MIC's users are on mobile which has poor website support.

CREATING CUSTOM SOLUTIONS

The 'MICBridge' API is a comprehensive web scraping and content enhancement tool that is meant to bridge the gap between dynamic user engagement and static content. We developed it to target an existing usability issue with the MIC site, where users seeking definitions of key terms are redirected to a separate page.

The API periodically scrapes MIC's glossary page to retrieve and update the MySQL database with the most up-to-date set of definitions. The database serves as the backbone for the MICBridge, which is made accessible to the MIC site through injected JavaScript code. Through endpoints offered by the API, the MIC has real-time definition retrieval, which are displayed in neatly styled pop-ups whenever a user hovers over linked glossary terms in an article (Fig. 4). Our solution improves the reader experience and promotes learning by reducing time to understanding and navigation.

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