WIKINCLUSIVE: Empowering PWDs' Access to Wikimedia's Vast Knowledge Repositories

Eng. Vincent Ben Jumba & Dr. Maureen K. Luvanda
Jumba Engineering Services, Nairobi, Kenya

Abstract

With an emphasis on visual, auditory and motor impairments, this research aims to identify tools and solutions that may be integrated into Wikimedia platforms to improve accessibility for users/persons with disabilities (PWDs). The objective is to compile a selection of features, guidelines and tools that can augment Wikimedia's ecosystem, consequently broadening accessibility to free knowledge and diversifying the community of researchers that utilize the platforms. In order to accomplish this objective, our team will apply a stringent in-depth investigative and explorative process integrating user-centered design principles with technological feasibility assessments.

Introduction

Universal accessibility of digital content is a prerequisite for the core idea of fair access to knowledge (Corcuff *et al.,* 2022). Although there have been significant advancements in the production and distribution of material within the Wikimedia projects, ongoing obstacles prevent PWDs from using this priceless resource (Kishira & Sasaki, 2023). This research project aims to methodically identify tools and innovations that increase accessibility to Wikimedia's vast knowledge repository. Its intention is to tangibly lessen the obstacles experienced by users with visual, auditory and movement impairments by critically evaluating and curating tools that promoting an inclusive environment in the Wikimedia Movement. The specific research questions are:

- What is/are the specific accessibility needs of users with visual, auditory, and motor impairments within the Wikimedia community?
- What existing external tools and features can address these identified accessibility needs?
- How feasible and compatible are these tools for integration into Wikimedia projects?

The hypothesis asserts that by curating and integrating appropriate tools, the accessibility barriers within Wikimedia can be substantially reduced, thereby promoting knowledge equity and inclusivity.

Date: Project will start on June 1, 2024 and conclude by June 30, 2025.

Related work

There remains a scarcity of research studies focusing on systematically curating and integrating external accessibility solutions into digital platforms. However, according to estimates by the World Health Organization, approximately 1:3 people need assistive technology, only 1:10 have access, and 90% of them reside in developing countries (Senjam *et*

al., 2023). Our work intends to bridge this gap by synthesizing insights from existing literature and diverse accessibility initiatives in complementary domains. The outcomes aim to enrich the understanding of adaptable tools suitable for integration into Wikimedia platforms, addressing the scarcity of comprehensive studies in this realm. The findings will contribute to advancing accessibility solutions, augmenting inclusivity and furthering ongoing efforts to ensure equitable access to information.

Methods

Surveys/interviews will be conducted to determine the unique accessibility requirements of PWDs. In order to ensure varied representation, questions will be developed in collaboration with experts and the community. Recommendations will be based on a systematic review of the accessibility tools that are available in the market, including technical assessments. Selection of flexible tools will be guided by rigorous evaluation standards and qualitative examination of the collected data.

Expected output

The outputs expected from this research include:

- A comprehensive report on accessibility needs aimed at different stakeholders including developers of Wikimedia platforms. The report will provide guidance to developers in the creation of inclusive features by outlining specific user demands.
- Identified software, features, tools, resources and implementation practices aimed at Wikimedia technical teams and project managers.
- Documentation and dissemination of research findings directed towards local communities and members of the larger Wikimedia community.

Risks

Possible risks include the scarcity of tools that satisfy Wikimedia's integration requirements and difficulties in integrating third-party solutions with Wikimedia's technical infrastructure. Different compatibility standards can present difficulties and require a great deal of customization in order to integrate seamlessly. The implementation of mitigation methods entails carrying out comprehensive technical evaluations, working closely with Wikimedia's technical specialists to resolve compatibility issues and recording exacting integration requirements.

Community impact plan

This problem addressed in this study holds considerable significance as it contradicts the fundamental philosophy of the Wikimedia Movement, which strives to ensure unrestricted access to information for all. By closely working with communities and affiliates of Wikimedia, this work hopes to reach out beyond the academic community and scholars. Wikimedia volunteer editors, developers and organizers will be involved in regular updates and feedback sessions. These interactions will promote acceptance, gather support and guarantee the usefulness and broad adoption of identified solutions.

Evaluation

The success of the project will be determined by the thoroughness of the tool review process and our ability to identify tools that are relevant and applicable to Wikimedia projects. Successful evaluation will be exhibited by demonstrating the tools' potential and feasibility for seamless integration into Wikimedia platforms, particularly highlighting improvements in user accessibility and positive community feedback.

Budget

The proposed budget of $42,258 will be allocated towards personnel stipend costs of two principal investigators and one research assistant for a period of 10 months, statistical analysis, data management, citation and accessibility software, equipment acquisition, open access publication, dissemination activities and 15% institutional overhead.

Prior contributions

As researchers in the area of business (VBJ) and science (MKL), this research project represents a shift in our portfolio as it is our first attempt to investigate accessibility solutions for inclusion into Wikimedia platforms. We have however recently acquired a grant of $500 from the Biochemical society to establish an online platform titled "Inclusief" which caters to PWD by featuring a compilation of resources that promote diversity, equity and inclusion. This grant does not cover research into accessibility tools. Aside from that, we are really excited to explore this field and offer our efforts towards initiatives that support diversity and inclusion. In order to guarantee the successful accomplishment of this endeavor, we are dedicated to utilizing rigorous analytical procedures and working collaboratively with experts.

References

1. Corcuff M, Routhier F, Gamache S, Fiset D, Leblond J, Lamontagne ME. Implementation Determinants of Knowledge Mobilization within a Quebec Municipality to Improve Universal Accessibility. *Int J Environ Res Public Health*. 2022 Nov 8;19(22):14651. doi: 10.3390/ijerph192214651. PMID: 36429370; PMCID: PMC9690413.
2. Kishira H, Sasaki G. Information and communication technology use by students with disabilities in higher education during the COVID-19 pandemic. *Univers Access Inf Soc*. 2023 May 10:1-15. doi: 10.1007/s10209-023-00997-w. Epub ahead of print. PMID: 37361681; PMCID: PMC10170035.
3. Senjam SS, Manna S, Kishore J, Kumar A, Kumar R, Vashist P, Titiyal JS, Jena PK, Christian DS, Singh US, Kamath R. Assistive technology usage, unmet needs and barriers to access: a sub-population-based study in India. *Lancet Reg Health Southeast Asia.* 2023 May 19; 15:100213. doi: 10.1016/j.lansea.2023.100213. PMID: 37614348; PMCID: PMC10442958.