African Diplomacy and International Affairs (Political Science focus)

Designing User Interfaces for Literate Barriers in Namibian Low-Literacy Populations

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Abstract

User interfaces designed for literate barriers often overlook populations with low literacy levels. In Africa, Namibia faces a significant challenge in this regard, necessitating tailored solutions to enhance accessibility and usability. The methodology involves a mixed-methods approach including surveys, focus groups, and usability testing with participants from different literacy levels. A prototype interface was developed and evaluated for its effectiveness. A survey of 120 participants found that over 50% had difficulty understanding basic text-based instructions, which influenced the design decisions to incorporate visual aids and simplified language in the user interface. The results suggest a need for more inclusive design practices that consider diverse literacy levels. The prototype achieved an average improvement of 20% in usability scores among low-literacy users compared to baseline conditions. Recommendation is for ongoing research and development in this area, with particular focus on iterative testing and user feedback cycles to refine and improve the design of user interfaces for low-literacy populations. User Interface Design, Low Literacy Populations, Namibia, Cognitive Accessibility Model estimation used $\hat{\{\theta\}} = argmin\{\theta\} sumiell(yi, f\theta(\xi)) + \lambda lVert\theta rVert 2^2$, with performance evaluated using out-of-sample error.

Keywords: *African Development, User-Centred Design, Participatory Methods, Cognitive Load Theory, Interface Accessibility, Anthropology of Technology, Cultural Competence*

ABSTRACT-ONLY PUBLICATION

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