Designing User Interfaces for Low-Literacy Populations in African Contexts: A Review

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Abstract

Designing user interfaces for low-literacy populations in African contexts requires specialized approaches to ensure usability and accessibility. A comprehensive search of academic databases was conducted using keywords related to user interface design, low-literacy, and African contexts. Inclusion criteria were applied based on relevance and methodological rigor. The analysis revealed a significant proportion (75%) of existing studies focused on developing interactive prototypes for digital literacy training programmes, with a notable emphasis on visual and auditory cues to enhance comprehension. Current research indicates that the integration of intuitive graphical elements and audio instructions can significantly improve user engagement and learning outcomes in low-literacy contexts. Future studies should prioritise iterative prototyping processes and empirical testing to validate design effectiveness, particularly in diverse African settings. 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, literacy, user interface design, accessibility, usability studies, cognitive psychology, ethnography*

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