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User Interface Design for Literate Barriers in African Low-Literacy Populations: A Case Study from Côte d'Ivoire

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Abstract

In Côte d'Ivoire, a significant portion of the population has low literacy levels, which hinders access to digital technologies and services. A mixed-methods approach was employed, combining surveys with qualitative interviews to gather data from both literate helpers and the target low-literacy population. User testing sessions were conducted using prototypes of proposed interfaces. The user testing revealed that a clear visual hierarchy and simplified navigation reduced confusion among illiterate users by up to 30% when compared to standard designs, indicating an improved interface design for their needs. User interfaces designed with literacy in mind significantly improve the usability of digital services for low-literacy populations. Future research should explore additional features and broader user groups. Implementers should prioritise training literate helpers on best practices for designing accessible user interfaces, particularly focusing on visual communication strategies. 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, ethnography, interaction, design, qualitative, usability*

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