African Logistics and Supply Chain (Business/Engineering crossover)

Designing Accessible User Interfaces for Literacy-Challenged Populations in Uganda: A Comparative Study

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Abstract

Designing accessible user interfaces (UIs) for literacy-challenged populations in Africa is crucial to ensure equitable access to technology and services. A mixed-methods approach was employed, including surveys ($N = 200$) $\wedge$ *user testing sessions* ($n = 50$). Findings revealed that a simplified visual interface design reduced error rates by 15% in literacy-challenged users compared to standard designs. The comparative study demonstrated the significant impact of UI simplification on usability among low-literacy populations, particularly when using statistical models for user testing data analysis. Further research should explore scalable UI design solutions and potential applications beyond Uganda's context.

Keywords: *African geography, accessible design, ethnography, literacy studies, participatory design, user-centred design, technological access*

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