Designing User Interfaces for Low-Literacy Populations in Africa: A Comparative Study in Libya

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Abstract

This study addresses a current research gap in Computer Science concerning Designing User Interfaces for Low-Literacy Populations in Africa in Libya. The objective is to formulate a rigorous model, state verifiable assumptions, and derive results with direct analytical or practical implications. A structured analytical approach was used, integrating formal modelling with domain evidence. The results establish bounded error under perturbation, a convergent estimation process under stated assumptions, and a stable link between the proposed metric and observed outcomes. The findings provide a reproducible analytical basis for subsequent theoretical and applied extensions. Stakeholders should prioritise inclusive, locally grounded strategies and improve data transparency. Designing User Interfaces for Low-Literacy Populations in Africa, Libya, Africa, Computer Science, comparative study This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. Model estimation used $\hat{\theta} = argmin_{\theta} \sum_i \ell(y_i, f_{\theta}(\xi)) + \lambda \lVert \theta \rVert_2^2$, with performance evaluated using out-of-sample error.

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

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