Revisiting User Interface Design for Low-Literacy Populations in Algerian Contexts

Abdelouahab Belkadi[1,2]**, Zouhair Elghali**[3]**, Rachid Benmessa**[3,4]

[1] Department of Cybersecurity, University of Blida 1 - Saad Dahlab

[2] University of Science and Technology Houari Boumediene (USTHB)

[3] National Agency for Research Development in Health (ANDRS)

[4] University of Blida 1 - Saad Dahlab

Author notes

Abdelouahab Belkadi is affiliated with Department of Cybersecurity, University of Blida 1 - Saad Dahlab and focuses on Computer Science research in Africa.

Zouhair Elghali is affiliated with National Agency for Research Development in Health (ANDRS) and focuses on Computer Science research in Africa.

Rachid Benmessa is affiliated with National Agency for Research Development in Health (ANDRS) and focuses on Computer Science research in Africa.

Abstract

This study addresses a current research gap in Computer Science concerning Designing User Interfaces for Low-Literacy Populations in Africa in Algeria. 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, Algeria, Africa, Computer Science, replication study This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. Model estimation used $\hat{\theta} = argmin_{\theta} \sum \ell(y_i, f_\theta(\xi)) + \lambda \lVert \theta \rVert_2^2$, with performance evaluated using out-of-sample error.

Keywords: *North-African, ethnography, participatory-design, literacy-analysis, user-centred design*

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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