African Organizational Communication (Media/Social)

Designing User Interfaces for Illiterate Populations in Nigerian Contexts: An Empirical Study

Taiwo Owolabi[1], **Olubayode Adebayo**[1,2], **Oluwaseyi Ogunyemi**[1,3]

[1] Nigerian Institute of Advanced Legal Studies (NIALS)

[2] Ahmadu Bello University, Zaria

[3] Department of Software Engineering, Ahmadu Bello University, Zaria

Published: 14 October 2011 | **Received:** 14 June 2011 | **Accepted:** 27 September 2011

Correspondence: towolabi@hotmail.com

DOI: 10.5281/zenodo.18932244

Author notes

Taiwo Owolabi is affiliated with Nigerian Institute of Advanced Legal Studies (NIALS) and focuses on Computer Science research in Africa.

Olubayode Adebayo is affiliated with Nigerian Institute of Advanced Legal Studies (NIALS) and focuses on Computer Science research in Africa.

Oluwaseyi Ogunyemi is affiliated with Department of Software Engineering, Ahmadu Bello University, Zaria 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 Nigeria. The objective is to formulate a rigorous model, state verifiable assumptions, and derive results with direct analytical or practical implications. A mixed-methods design was used, combining survey and interview data collected over the study period. 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, Nigeria, Africa, Computer Science, original research This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. 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 anthropology, cognitive psychology, ethnography, interaction design, participatory design, semiotics, 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.

✉ REQUEST FULL PAPER

Email: info@parj.africa

Request your copy of the full paper today!

SUBMIT YOUR RESEARCH

Are you a researcher in Africa? We welcome your submissions!

Join our community of African scholars and share your groundbreaking work.

Submit at: app.parj.africa

Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge