Digital elementary school solution with moodlebox in a conflict zone: the case of the Central African Republic

Nadège Gladys NDASSIMBA*, Edgard NDASSIMBA*, Ghislain Mervyl KOSSINGOU*, Samuel OUYA*

* Laboratory LIRT, Higher Polytechnic School, University Cheikh Anta Diop of Dakar, Senegal nadegegladys.ndassimba@gmail.com, edgard.ndassimba@gmail.com, skossingou@gmail.com, samuel.ouya@gmail.com

Abstract— The political-military crisis of 2013 destroyed the Central African education system. Armed groups occupy 80% of the territory. They often use school buildings as base camps, playgrounds as shooting ranges and transform desks and chairs into firewood. Due to insecurity, most of the qualified teachers have abandoned their posts to stay in Bangui, the capital of the country. School-age children are left to their own devices without education. This constitutes a danger to peace, security and the socio-economic development of the country. Going to school, learning to read and write is a right that all children should enjoy.

In this article, we propose a digital elementary school solution in conflict areas with moodlebox to enable these children to learn with the assistance of the teachers-parents.

The methodological approach of our solution is based on the use of raspberry pi 3 b+ on which we deploy moodle for all elementary school classes. The solution does not need the Internet or network infrastructure to work. Each student is equipped with a tablet that allows him/her to connect to the digital elementary school platform via Wi-Fi. Teachers recruited and trained in these areas provide the necessary support for children to master the digital tools for their education, and the teaching model is based on active learning. Course content is prepared by qualified teachers and integrated on the platform.

This solution contributes on the one hand to the mastery of Information and Communication Technologies for Education by primary school students in a constantly changing technological environment; on the other hand to the improvement of schooling, the consolidation of peace, security and socio-economic development, thus facilitating the emergence of good governance and democracy in Central Africa.

Keyword— Education system, conflict zone, digital elementary school, MoodleBox, active learning, Wi-Fi.



Nadege Gladys NDASSIMBA is currently a PhD student at Computer, Network and Telecom Laboratory (LIRT) at University Cheikh Anta DIOP of Dakar.

Holder a Master's degree in Teleinformatic from Polytechnic Higher School/Multinational Higher School of Telecommunications of the University Cheikh Anta Diop (UCAD) of Dakar-Senegal.

His current research interests include Telecommunicaions application, e-learning.



Edgard NDASSIMBA is currently a PhD student at Computer, Network and Telecom Laboratory (LIRT) at University Cheikh Anta DIOP of Dakar.

Holder a Master's degree in Teleinformatic from Polytechnic Higher School/Multinational Higher School of Telecommunications of the University Cheikh Anta Diop (UCAD) of Dakar-Senegal.

His current research interests include Television White Space TVWS and applications of telecommunication's services.



Ghislain Mervyl Kossingou is currently a PhD student at Computer, Network and Telecom Laboratory (LIRT) at University Cheikh Anta DIOP of Dakar.

Holder a Master's degree in Engineering Sciences from Polytechnic Higher School of the University Cheikh Anta Diop (UCAD) of Dakar-Senegal.

His current research interests include Internet of Thing IoT, e-learning, e-health.



Pr. Samuel Ouya is currently the Director of Computer, Network and Telecom Laboratory (LIRT) at University Cheikh Anta DIOP of Dakar. He was from 2013 to May 2017 the first Director of Infrastructure and Information System of the first virtual university of Senegal (UVS).

Holder of a Thesis in Applied Mathematics from the Gaston Berger University of Saint-Louis in Senegal and a Telecommunications Thesis from the Cheikh Anta Diop University (UCAD) in Dakar-Senegal, he is interested in Applications of innovative telecom services to virtual organizations.