A FLIPPED CLASSROOM MODEL FOR ADAPTIVE SYSTEMS IN E-LEARNING

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MAY, 2017

ACCEPTANCE

This is to attest that this dissertation is accepted in partial fulfilment of the requirements for the award of Masters of Science degree in Management Information System, in the Department Of Computer and Information Science, College of Science And Technology, Covenant University, Ota. Ogun State.

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CERTIFICATION

I hereby certify that this project entitled **A Flipped Classroom Model For Adaptive Systems In E-learning** was carried out by Fatinikun Deborah O. with matriculation number 14PCH00759 under our supervision and approved by us:

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DEDICATION

This project is dedicated to God Almighty; my very present help in the time of need, for his mercies endures forever.

I also dedicate this project to my beloved husband and parent who supported me and encouraged me in so many ways, I am deeply grateful.

DECLARATION

I hereby declare that this project entitled **A Flipped Classroom Model For Adaptive Systems In E-learning** was carried out by Fatinikun Deborah O. with matriculation number 14PCH00759, under the supervision of Dr Ambrose Agbon Azeta. This project is a product of my personal research and compilation, and no part of this project has been submitted for a degree in a university to the best of my knowledge. All quotations and references are duly acknowledged.

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ABSTRACT

Student and computer interaction becomes more salient where visual-auditory hardware and materials are required in classroom environment which are used for formal education. For instance, as a substitute of having classes during sessions, students learn mostly outside the class, by reading, watching videos and listening to podcasts or other audio format. Adaptive flipped classroom model is a learning and teaching approach that inverts the traditional classroom, in other words activities that would have traditionally taken place inside the class now takes place outside the classroom and vice versa. And it helps in changing user's behavior vigorously and presents the learning concepts according to learner's model. The aim of an adaptive flipped classroom model technologies is to achieve creative and innovative learning environment for those who have difficulty accessing education such as the poor, illiterate, less privileged, and those with location and financial constraints. The objective of this study is to provide flipped classroom model and incorporate the context of intelligent self-service learning with the use of an adaptive expert system to improve learning outside the classroom. The study employs a combination of technologies such as system design and modeling using Unified Modeling Language (UML), server side scripting, web-based system development, data management and rule-based reasoning in order to develop a prototype an adaptive flipped classroom model for an e-learning system. The developed system was evaluated to determine the level of usability. The result of the usability evaluation showed that the developed application has an 'average usability' rating of 4.053 out of 5 scales. This shows that the adaptive flipped classroom system will not only complement the existing e-learning system, it is also expected to be of immense benefit to all students with different levels of learning and assimilation.