

MDA and Object Oriented System Analysis and Design Integration for TanSSe-L System Development

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ABSTRACT

In software development, a successful information system is subject to frequent evaluation and revision within the framework known as System Development Life Cycle (SDLC). SDLC is the basis for most software development methodologies, whether structured approach or object oriented approach. Tanzania Secondary Schools e-Learning (TanSSe-L) system is a customized learning management system (LMS) developed to enable ICT support in teaching and learning functions by allowing for the creation and storage of learning materials, making them available, easily accessed and sharable by students from different secondary schools in Tanzania. The development of the TanSSe-L system made use of software engineering discipline using Object-Oriented System Analysis and Design (OOSA&D) with Unified Modelling Language (UML) and Model Driven Architecture (MDA). Implementation made use of open source LMS through customization to help generate a timely solution to TanSSe-L system development.

This paper presents how TanSSe-L system was developed through the integration of Object-Oriented System Analysis and Design approach and Model Driven Architecture to address the SLDC in a systemic way, the approach which led to the stage of customizing an open source LMS. It shows the importance of creating a base guide for customization.

Keywords—Software Engineering, Object Oriented System Analysis and Design, UML, MDA, Customization, ICT, eLearning, Tanzania Secondary School