University Of Buea

Project Title: **Customization of OpenERP (Odoo) to a School Management System**

Name: **Alangi Derick Ndimnain**

Matricule Number: **FE12A113**

Faculty: **Engineering and Technology**

Department: **Computer Engineering (Software Engineering specialty)**

Course: **CEF512, ERP Systems Engineering by Mr. Ngatchu Harry**

Introduction

This project aims at solving the problem of school management systems using ERP Systems and the case ERP used in for this purpose is OpenERP (Odoo), which is and Open Source (OS) ERP Systems built with Python and has many modules for different purposes that can be customized to suite a particular need at any one time. School Management System is still a serious problem within our community especially in secondary schools and there is a need for the implementation of a good School Management system so that it will handle various problems which span from filling of marks by teachers to printing of students results.

Odoo (OpenERP) is an Open Source ERP meaning its source codes can be modified for any use and re-distributed and also, setting this systems up is not very complicated, all we need is install the relevant dependencies, customize the systems with the respective module needed for the project and rewrite the code or reuse the code to suite the need for this project, in this case, a School Management System.

Problem Statement

Students face a serious problems at the level of their academic results in school because of the use of poor school management systems and also calculations of marks in SMS (School Management Systems) are poorly done including wrong decision making based on certain scenarios that the system can not handled due to poor programming and limitation of the systems.

The solution here is to make sure that the above mentioned problems are solved using OpenERP. First of all, the software is not as limited as the other existing softwares because of the active community of developers around it. Its very powerful in terms of decision making and handles all the scenarios, calculations of students marks and averages is done very well and generation of transcripts/report cards is well done with every information needed for the student to understand his/her results without necessarily asking someone.

Methodology

Following the Software Development Life Cycle (SDLC), I will follow the ***Incremental Model*** of executing this project (traditionally known as: ***Water Fall Model***). I will build or execute a small portion of the project and test to make sure its working then move to the next portion of the project. I am using Odoo version 7/8 for development and using a Unix-like Operating System (Ubuntu 14.04 LTS). This implies that the systems will be deployed on a Unix-like systems.

I will also use MySQL as my database management system (DBMS) to handle my database related issues. Language that will be used for the project is Python and for the DB will be SQL. Review of the system I am working on will be done and approved by my supervisor and all submissions will go to his email (anything that needs to be submitted). Meetings will be done on the basis decided by us for evaluation and tracking of how far the project is progressing.

At the end of the implementation of the system, a report will be submitted as final evaluation and write up for the whole project. Work on this project will be done 3 times per week till the completion of the project.

In overall, after a successful implementation of this system over the semester, this will have enhanced my skills and also the optimization of the way I will handle services in industries.

Plan/Time-line of the Project

Phase 1 – Setting up Environment

- Download the Required version of Odoo, version 7/8
- Configure Odoo in Ubuntu 14.04 LTS
- Download and Install all Dependencies and Required Libraries

Phase 2 – Integration of Moodle

- Download of Moodle, required version for Odoo 7/8
- Integration of Moodle to Open ERP (Odoo)

- Install any other dependencies and libraries which might be needed to run Moodle in Odoo

Phase 3 – Customization of the System for a SMS

- Configure Moodle in Odoo and make sure it runs
- Recode any particular sections of the systems that needs to be recoded to handle local school scenarios.
- Redo sections of the UI thats needs to be changed and try to balance UI/UX of the SMS
- Design a Database that will be used by the system for the school management system.
- Test the systems to make sure everything is working correctly.

Phase 4 – Deployment and Use, Maintenance

- Launch/deploy the system locally for use.
- Test the system over a network to see how it works.
- Deploy the system to any school in need for free for them to test
- Maintenance of the system and fixing of bugs, also, upgrading of the system to support the later versions of Odoo and Moodle.

Relevance of the Project to CEF512

Executing this project is highly relevant to this course because; First of all, based on the course objective that says; “Optimize the students skills in the deployment and optimization of services in industries”, doing this project is a very classic way of enhancing this skills, since we shall develop a full project and deploy for a particular enterprise to use.

Also, since this project is considered as the exam for the course, it is also very relevant to do the course since if its not done, the student (me) will not have an exam mark which is not good. So doing this project in the course is also very relevant for academic purposes.

In addition to the above mentioned, following the course content, there was a section that highlights the use of Open Source ERP in some countries, their barriers, advantages and disadvantages etc..., this is also relevant to the course since we shall now use the concepts of this course in real life to see how it works in some sample ERP's.

To add, Implementation of Open Source ERP and proprietary ERP will be seen while implementing this project since we will be faced with all the problems mentioned in/out of the course and this will act as an opportunity to solve this problem and hence discover new approaches of handling ERP problems.

Conclusion

To conclude, I want to thank the Course Instructor for this opportunity in working with ERP Systems in real life, with this project, I really aim at solving the problems that SMS face by using the concept of ERP Systems engineering and with the guide of my supervisor and course instructor, I am sure that the implementation will be a success and from this point onwards, I will try to follow ERP methods of solving complex problems in any domain of life when need be.