

Developing an e – Tool to do teaching and learning for undergraduates in Vavuniya Campus

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Abstract: The educational sector has paid particular attention to the potential of technology to facilitate improvement in the quality of teaching, to enable effective teaching and to improve the learning experience.

This paper point-outs the use of an e- Tool which can help both students and the teachers in their teaching and learning. The e - Tool contains several applications and editors which are needed for the students and teacher. The e – Tool can be worked in online and in offline as well. In online, the e – tool contains some online applications that connect student – student and teacher – student for group discussions. In offline it works as learning tool. The e - Tool provide security for the institute by providing the facility that can limit the connection to a certain server.

The e-tool will helpful the student to track his progress himself and to the teacher or the academic authorities to track students' progress and also to summarize and inspect his/her education state

Keywords: e-Tool, Learning support system, better LMS, System for practical laboratory

Introduction

The educational sector has paid particular attention to the potential of technology to facilitate improvement in the quality of teaching, to enable effective teaching and to improve the learning experience. It was observed by several researchers that with the advent of the Internet technology, integration

of the Information Technology (IT) tools into higher education stream has become an easy task

Students today have grown up within a world of pervasive technology including mobile phones, digital cameras and the omnipresent internet. As a result, students are mostly in touch with the new technology used to do their most educational task.

There are 15 Universities and 3 Campuses come directly under the authority of University Grants Commission. Vavuniya Campus is the one of the campus comes under the authority of University Grants Commission. Vavuniya Campus has two faculties, Faculty of Applied Science and Faculty of Business Studies and offer different degree programs from both faculties.

Both faculties need different software application and programming languages to conduct their courses. As a result of this computer laboratory need lots of software applications and programming languages to be installed. We have decided to develop an e – Tool which can be customizable and can fulfill all the requirements of students in Vavuniya Campus.

Our goal is to create an e- Tool which can help both students and the teachers in their teaching and learning. The e - Tool contains several applications and editors which are needed for the students and teacher. The e – Tool can be worked in online and offline as well. In online, the e – tool contains some online applications that connect student – student and teacher – student for group discussions. In offline it works as learning tool. The e - Tool provide security for the

institute by providing the facility that can limit the connection to a certain server.

There have being many soft wares and solutions which made for achieve different task similar to this field but this is unique from them as the project focus the attention mainly on effective education in a well maintained environment. The institution or the body which use the software has the ability to maintain the system in an appropriate manner to their requirements. The solution is not only works as a LMS but also it is a stand-alone application which helps students to keep their records and do their studies effectively with proper guidance and proper assisting.

This e – tool provides very interesting user friendly interface which is easy to use and delivers good facilities to the teacher and student for their teaching and learning activities.

Methodology

The project is conducted on following phases considering the achievement of a proper system. The project is mainly focused about studying the possibilities such a system can be useful and about the features and problems it can be addressed.

Theoretical and literature Study

Study about the factors that should consider when implementing a system with this intention. What are the similar projects and studies have done previously on this field. And the barriers that would occur when implementing such a solution .the market analysis for such a solution

Developing

Study for develop the components relevant to the System and provide features to add programs in to it or maintain the links to the source

The study will be mostly focused on how the software solution can be easily manipulated due to the requirements of the institute and providing a better learning experience to the Users, Maintain Security of Software, Method of providing the facility to easily implement the System in future issues, off-Line Requirements working with online software

Software development phase

In this phase the software will be done through Visual Studio.Net 2010 using C# language compatible with any C.P.U. Setup was created using setup building wizard the visual studio got. As a Sample testing environment and to study the stability of software project

The future implementations

Implementing the project to work on any platform or as a standalone application works with hardware without an OS (OS is the System) will be future intentions of the project. Providing security and implementation updates due to the upcoming issues

Work Plan

Study the system architecture for the System.

The study of the project structure and implementation procedure.

Gather the information and sample data.

Study about similar approaches and User requirements to achieve the target and institutional needs in such a solution

Study, search for project related algorithms, techniques and sources.

Identifying the best algorithms or easiest implementation methods to the implementation of the project

Dividing the project and distributing

Requirement analysis

Developing the algorithms and methods

User Interface Design

Database Design and Connection

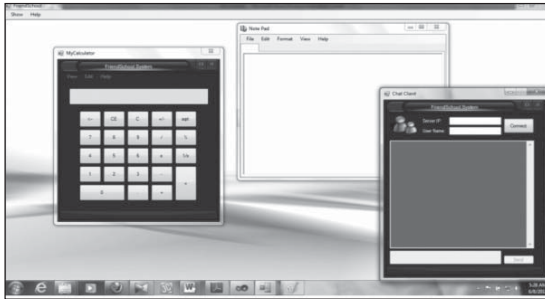
Identifying the Users and their privileges

Integration of the project fragments

The finalizing step and work on the integration of all the elements in need to the project

Testing the system

Implementation issues checking, testing with sample data and study the behavior of the system in a networked environment and check responses for network issues and error handling



**Figure 1: Features in Solution
(Calculator, Notepad and Chat Environment)**



Figure 2: Features in Solution (Browser)

Results

The implementation of the project was conducted using prototypes. The prototypes were tested with the various machines with various configurations. User ideas and the Expectations of the institutes were gathered after exposing the prototypes to them. As Errors were likely to happen most of the times as the project should be compatible with many requirements and also with many environments, error handling was done with more concern.

Discussion

The interface should be easy to use and easy to understand as first comers should get on with the software in less time. The privileges are mostly configured due to the many users are accessing to the same system. As the software works in the network the teacher can use the white board facility effectively and also student can see what teacher is writing in the board without a trouble and within the network the student also can join in the process of explaining something. The chatting facility is provided to use for educational purposes as each student can talk with the others over the network with the attention of the administrator .As the internet access is provided the students can surf internet but within a more educational environment.

The system should be worked fine in an average machine with least configurations. The system should support the data transfer over a network effectively. Finally project should be easily manageable and updatable.

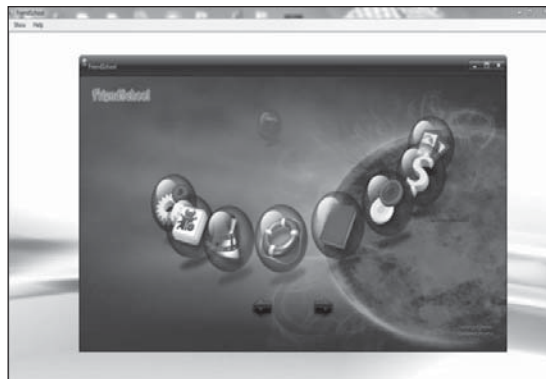


Figure 3: The Main Screen of the Solution



Figure 4: Features in Solution

Conclusion

The Software has being developed keeping the intention of giving maximum Support to the students, in mind while providing a secure environment and an easy to handle structure to the academic institute. The final product will be a customizable environment according to the need of the Users (students, teachers or lectures, system operators).

The features, this project addresses can be implemented to the modern LMSs and any other educational software and provide a better learning experience to the user. As the system works online and off line, the institute can provide a copy of the software to each individual to install to their machines and work with system from their homes if the institution is cable enough to maintain a server.

The project is not just an individual software it's a concept that allows the institutions to provide a better learning experience to their students and also a good media to the student to work on with his/her educations

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