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ENHANCED VIRTUAL CLASSROOM SYSTEM

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ABSTRACT

A virtual classroom also known as an e-learning space is a digital learning environment that allows teachers and students to connect online in real-time. Virtual classrooms utilize video conferencing, online whiteboards, and screen sharing to allow educators to hold live lectures, virtual office hours, and discussions with students in an interactive setting. This research is aimed to design and implement an enhanced virtual classroom that will integrate both the asynchronous and synchronous modes of learning in one environment which has been the major setback of a most virtual classrooms in existence. The method used in designing and analyzing the system is Object-Oriented Analysis and Design methodologies. This research is based on a literature review, academic analysis, and design that gather information from different sources. From my findings, it is apparently clear that the various researchers neither integrated a system that features both synchronous and asynchronous modes of learning in a single platform. The research will improve another virtual classroom in existence. This system will output an Enhanced Virtual Classroom that will solve the problem of isolation in the virtual classroom and bring friendship, networking, and collaboration to the traditional classroom. The system was developed using PHP and MySQL as server-side programming and database respectively and was tested and observed to be working well. The result shows that there is improvement and more features in the designed system than in the existing systems .

Key Words: Virtual, classroom, enhanced, implemented, database.

2. Brief Introduction

A virtual classroom also referred to as an e-learning space is a digital learning environment that permits lecturers and students to connect online in real-time. Virtual schoolrooms utilize video conferencing, online whiteboards, and screen sharing to permit educators to carry on live lectures, virtual workplace hours, and discussions with students in an interactive setting. Virtual classrooms are meant to replicate the expertise of physical classrooms, with the added benefit of file sharing, instant feedback, and interaction, and are ideal in distance learning situations. Virtual classrooms are generally cloud-based learning solutions that are part of larger learning management systems(LMS).

3. Summary of The Background

E-learning has gained a lot of focus from educators and researchers, with several extolling e-learning over traditional learning. Despite this focus, the implementation of e-learning systems typically fails. The aim of this paper is to think about a spread of barriers, impacting the success of e-learning implementations, nevertheless to the simplest of the research no conceptual framework is able to consolidate existing analysis. This paper undertook an in-depth review of the literature regarding e-learning implementation barriers and drawbacks of the prevailing system. Papers were extracted from established peer-reviewed journals and open sources. Articles not associated with e-learning implementation barriers were discarded. several papers were identified, and published between 2014 and 2021. Hermeneutics and data-driven qualitative content analysis was used to outline 68 distinctive barriers.

Statement Of the Problem

The problems of the existing virtual schoolroom system are:

i. It lacks live streaming of lectures within the same platform
ii. It lacks face-to-face interaction with students and lecturers within the same platform
iii. It lacks cluster collaborations and team work

Objectives Of The Research

ii. To provide a system that may integrate both the asynchronous and synchronous mode of learning in one environment that has been the foremost blow of most virtual classroom existence.

3.Summary of Literature Review

In this chapter, many research and related works of the virtual classroom have been described. From the above discussion, it's clear that virtual education is being unfolded everywhere on the planet and students are now more engaged in e-learning. E-learning systems offer solutions that deliver knowledge and information, facilitate learning, and increase performance by developing acceptable knowledge flow within organizations (Marinoni, et al. 2020). putting into observation and appropriately managing technological solutions, processes, and resources are necessary for the efficient utilization of e-learning in an organization (Alajmi et al. 2019). In this paper, we define e-learning as enhanced organizational learning (EOL) because of the utilization of digital technologies to reinforce the method of improving actions through higher data and understanding in a company. In recent years, a major body of analysis has targeted on the intersection of e-learning and structure learning (e.g., Khandakar and Pangil 2019; Lin et al. 2019; Menolli et al.

2020; Turi et al. 2019; Xiang et al. 2020). However, there's an absence of systematic work that summarizes and conceptualizes the result to support organizations that need to move from being information-based enterprises to being knowledge-based ones (El Kadiri et al. 2016). especially, recent technological advances have LED to a rise in analysis that leverages e-learning capacities to support structure learning, from video game (VR) environments (Costello and McNaughton 2018; Muller Queiroz et al. 2018) to mobile computing applications (Renner et al. 2020) to adaptive learning and learning analytics (Zhang et al. 2019).

These studies support completely different skills, think about completely different industries and organizations, and utilize varied capacities while specializing in various learning objectives (Garavan et al. 2019). Our literature review aims to tease these particularities and investigate| however these parts are utilized over the past decade in EOL research. Therefore, during this review we tend to aim to answer the subsequent analysis queries (RQs): • RQ1: what's the status of research at the intersection of e-learning and organization learning, seen through the lens of areas of implementation (e.g., industries, public sector), technologies used, and methodologies (e.g., kinds of knowledge and knowledge analysis techniques employed)? • RQ2: however will e-learning be leveraged to reinforce the method of up actions through higher data associate degree understanding in an organization? Our motivation for this work is predicated on the rising developments within the space of learning technologies that have created momentum for her adoption by organizations. This paper provides a review of an analysis of e-learning capabilities to boost structure learning with the aim of summarizing the findings and guiding future studies. This study will give a springboard for different students and practitioners, particularly within the space of knowledge-based enterprises, to look at e-learning approaches by taking into thought the previous and in-progress analysis efforts.

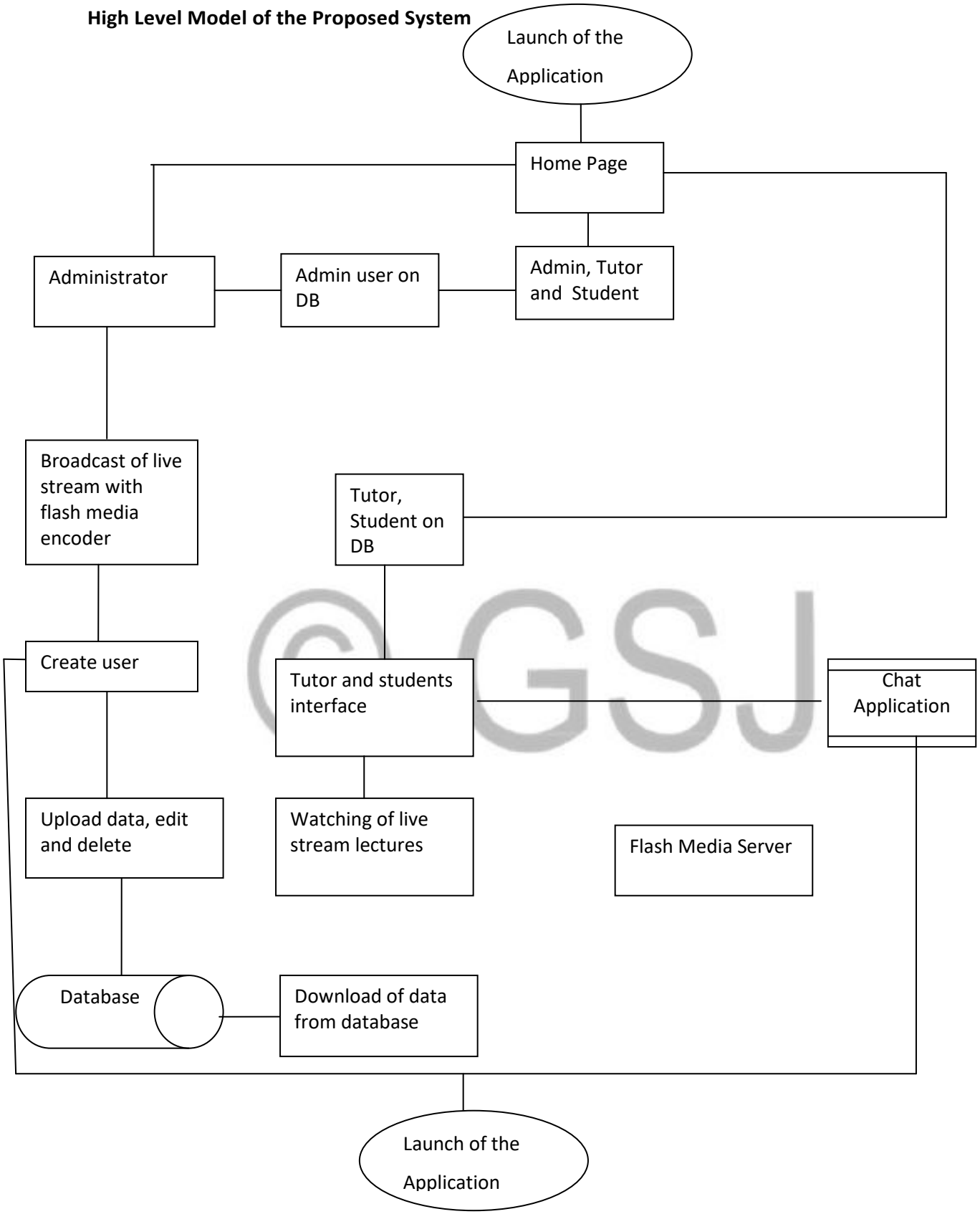
4 . Proposed System , Methodology and Implementation

Proposed System

This study presents the planning of prototype enhanced Virtual classroom System for teaching and learning mistreatment asynchronous and Synchronous learning management system and blackboard Collaborate synchronous learning management system. Users of the virtual classroom will collaborate online in each real time and self-paced by sharing ideas, experience and content among group members and alternative users. The Virtual classroom System design contains of the front tier, application tier and backend tier.. the appliance utilizes the Window,

Apache, MySQL, PHP (WAMP) and web facilities whereas providing users with a straightforward and consistent computer programme. MySQL's method Manager records and provides a visible audit of all messages group action between web services among the system. Virtual classroom permits instructors to deliver web based training to geographically spread staff, business partners and customers. Virtual category area may be accustomed hold live classroom discussion. every subject includes a synchronous chat area for student and give-and-take. Besides being user friendly, smart virtual classroom have inbuilt collaboration tools that interact the student in active learning.

High Level Model of the Proposed System



Methodology Adopted

The method of research and style utilized in this work is Object-Oriented Design Methodology (OODM). Object oriented analysis and design may be a technical approach for analyzing and designing an application by applying object-oriented programming similarly as visual modeling throughout the event life cycle to faster better stakeholder communication and product quality. Object oriented analysis and design uses an repetitive approach with stress on modularity and re-usability. Object oriented analysis and design combines each information and strategies into cohesive unit and classes.

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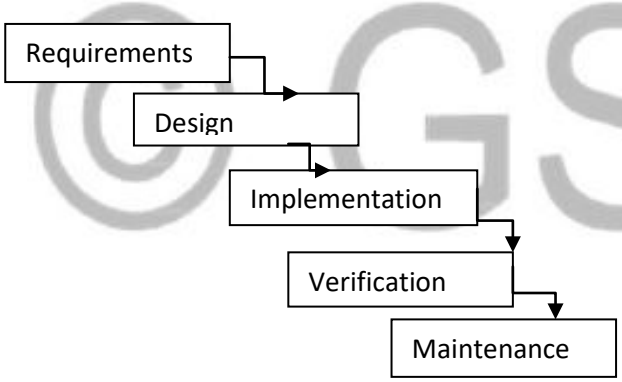
The Object Oriented Analysis and Design Methodology adopts the following approach below:

Object oriented Analysis design



System Implementation

The purpose of System Implementation can be summarized as follows:

making the new system available to a prepared set of users (the deployment), and positioning on-going support and maintenance of the system within the Performing Organization (the transition). At a final level of detail, deploying the system consists of executing all steps necessary to educate the Consumers on the use of the new system, placing the newly developed system into production, confirming that all data required at the start of operations is available and accurate, and validating that business functions that interact with the system are functioning properly. Transitioning the system support responsibilities involves changing from a system development to a system support and maintenance mode of operation, with ownership of the new system moving from the Project Team to the Performing Organization.

Steps to implementing the new system are:

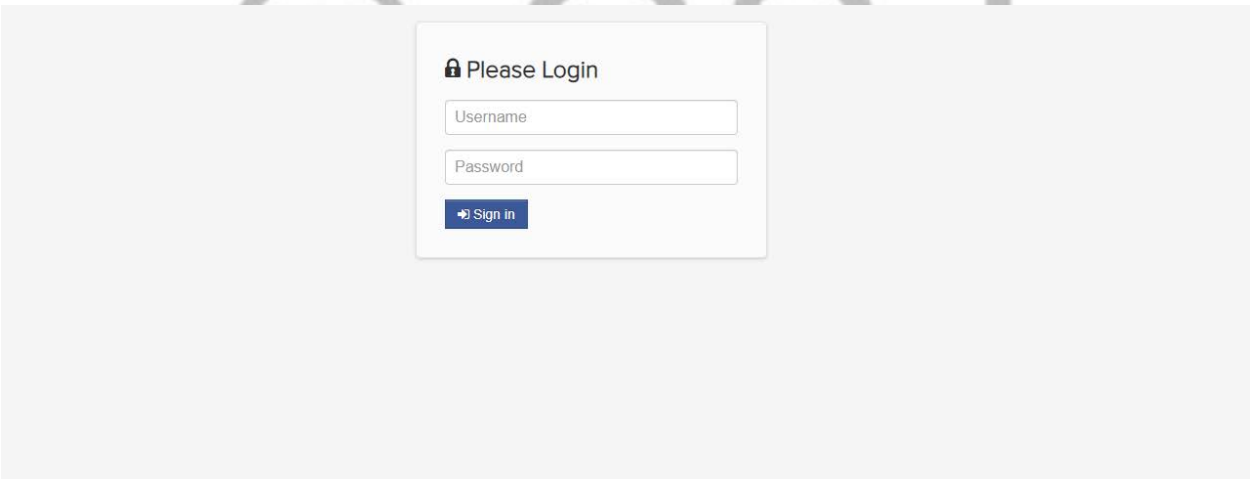
i. **Preparation for system implementation:** The purpose of Prepare for System Implementation is to take all possible steps to ensure that the upcoming system deployment and transition occurs smoothly, efficiently, and flawlessly.

ii. **Deployment of the system:** The purpose of the Deploy System process is to perform all activities required to successfully install the new system and make it available to the Consumers. Deploying the system is the culmination of all prior efforts – where all of the meetings, planning sessions, deliverable reviews, prototypes, development, and testing pay off in the delivery of the final system.

iii. **Transition to performing organization:** The purpose of the Transition to Performing Organization process is to successfully prepare the Performing Organization to assume responsibility for maintaining and supporting the new application.

5. Result, Discussion and Conclusion

Results and Discussion



This is the login page of the enhanced virtual classroom system, It helps learners to learn from any location and it reduces physical contact which helps reduces the spread of contagious diseases. The application is highly recommended in schools, government establishments, military and paramilitary agencies.

E-learning is applicable in various field which includes below:

i. Schools
ii. Companies
iii. Conferences
iv. Banks etc

Conclusion

This application will give flexibility to students and to those who do not have time to attend college due to their busy schedule, so it is the best web application to get education in virtual environment. E-learning is not just a change of technology. It is part of a redefinition of how we as a species transmit knowledge, skills, and values to younger generations of workers and students. I will end this book by daring to make a few predictions of how e-learning and the functions it serves will continue to develop. The new models lead us to some interesting new visions of how education will be acquired in the future. Learners will have access to millions or billions of knowledge modules. Some will be Web pages with simple text and graphics. ...

The promise of e-Learning is that it provides leadership with powerful new tools for improving capability development, speed, and performance whether their organization operates in one geography or many. Just as the rise of information technologies fundamentally changed the nature of how work gets done in organizations, the emergence of learning technologies is fundamentally changing the nature of how people learn to do that work. The fundamental learning model hasn’t changed: Learning professionals still help others learn how to do things they couldn’t do before The promise of e-Learning is that it provides leadership with powerful new tools for improving capability development, speed, and performance whether their organization operates in one geography or many. Just as the rise of information technologies fundamentally changed the nature of how work gets done in organizations, the emergence of learning technologies is fundamentally changing the nature of how people learn to do that work. The fundamental learning model hasn’t changed: Learning professionals still help others learn how to do things they couldn’t do before The promise of e-Learning is that it provides leadership with powerful new tools for improving capability development, speed, and performance whether their organization operates in one geography or many. Just as the rise of information technologies fundamentally changed the nature of how work gets done in organizations, the emergence of learning technologies is fundamentally changing the nature of how people learn to do that work. The fundamental learning model hasn’t changed: Learning professionals still help others learn how to do things they couldn’t do before

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