**College Management System**

Updated by: Sreedarsh S

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**Abstract**:

The modern web technology provides enabling environment for students to explore knowledge as well as the communication convenience for them to interact. Virtual learning environments are hugely diverse in size, capability and services offered can cater for individuals ranging in attainment, ages and special needs. Virtual classrooms are of three broad categories – independent, collaborate and broadcast (Atasi et al, 2008). Web-based learning approach has come to stay. It not only has dealt with standard but also classroom-based environment.

This learning approach has raised the stake on how well the benefits of collaborative learning will be properly harnessed in a web-based environment. Collaborative learning according to Zhao et al (2008) means that knowledge is not something that is delivered to students, but rather something that emerges from active dialogue among those who seek to understand and apply concepts and techniques. With collaborative learning environment there is enhanced student – student interaction which may contribute to the achievement of educational goals by influencing educational motivation and aspirations through peer relationships (Hilz, 1993). Kaye (1994) posits that to collaborate means to work together, which implies a concept of shared goals and an explicit intention of “add value” – to create something new or different through a deliberate and structured collaborative process as opposed to simply exchanging information or passing on instructions.

Web-based Virtual Classroom System (VCS) provides the platform or structure for effective collaborative learning through which quality knowledge in various forms and approaches can be gained. Some students live in other parts of the country (Nigeria) or even in other countries, and some are gainfully employed, some are hospitalized due to illness and some are physically challenged. For all these persons distance education and web-based learning (e.g VCS) may offer interesting opportunities and democratic advantages. Hilz (1997) asserts that collaborative learning at a distance may give as good results as learning in a traditional classroom, or even better.

To overcome some of these limitations outlined above, we propose to develop a “Mathematical model Web-based Virtual Classroom system” based on active learning approach. Various virtual classroom systems exist quite alright, to date there is no standard framework or model to guide developers of such systems. Our model is therefore intended to provide the much needed framework for virtual classroom system developers.

The task of this research is to examine current aspects of web-based learning environment (Virtual classrooms) in use and identify the areas for improvement and then overall goal being; to according to our requirements, develop a mathematical model web-based virtual classroom system (VCS) which will emerge as a viable tool through which collaborative learning and quality knowledge in various ways and approaches can be gained.

**Technologies Used**:

* Html
* CSS
* Java script
* Bootstrap
* React / React Native
* Java Spring Boot
* Database – Mysql
* AWS EC2, Lambda, S3

**Modular Description**:

* Admin
* Department
* Classes
* Teachers
* Students
* Parents
* Teacher\_Roles
* Subject
* Examination
* Exam\_units
* Questions
* Result
* Attendance
* Session
* Assignment
* Notifications
* Feedback