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FUTURE CLASSROOM

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Abstract - In the last few decades, education has witnessed some advances in technologies involving computer aided learning that promises to drastically change the methods of teaching and learning. The World Wide Web has played a major role in information storage and dissemination in the educational community. Conventional classroom based teaching involves the delivery of course materials by the lecturer in a particular place at a defined time. Hence it imposes a constraint of time and place on both the instructor and the student. Due to human factor arising from the traditional classroom method, the lecturer may not always be able to put in optimum effort towards preparing and delivering course materials. There may also be inconsistencies in the pedagogy and learning style due to repetitive nature of teaching/learning. The objective of this paper is to develop a virtual classroom system to enhance learning on campus. The system was developed using PHP and MySQL as server side programming and database respectively. The web-based virtual classroom provides a web enabled interactive model for e-learning in which the course material is presented using multimedia and hypermedia.

Keywords: Virtual classroom, e-learning, multimedia, education

1. INTRODUCTION

With increasing popularity of the internet traditional classroom has shifted to e-learning This project aims to make use of the modern technology for helping the teachers in utilizing more time for teaching and students to easily get access to the study material. The growing popularity of E-learning has introduced new terms to education as VIRTUAL CLASSROOM. It is a scheduled, online, teacher-ledtrainingsession where teachers are not present with learners physically but interact via internet. This project works with users such as admin, faculty, student and parent. Admin adds faculty, parent and student details and even faculty timetable. In virtual classroom lectures or sessions conducted using the internet. The quiz will be conducted at the end of every session. The marks obtained by students in quiz will be stored by database. These marks define the internal marks. The instructor can upload the course plan and study materials for their subjects which can be accessed by their trainees. Also the assignments are allotted through this portal to the students, the students submit their assignments from their end. Parents of all the students keeps track on their wards through the report module.

2. ARCHITECTURAL DESIGN

The Architectural device of the undertaking include 4 modules, wherein Admin module can manage over all members inside the machine and can allot classes for the school and the students. For Teaching purpose, the teaching module prepares notes, assignments and conducts assessments. Student module can login to the device for the attendance and to attend the Tests. Finally, the Parent module video display units the scholar module according to their login

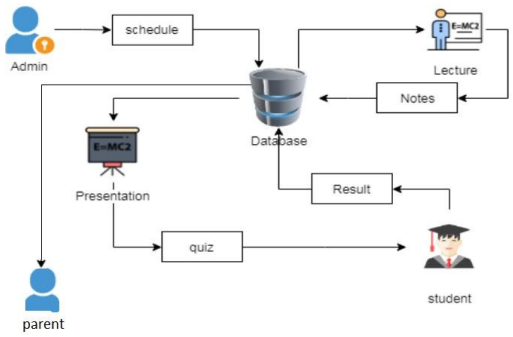


Fig-1.1:Architecture Diagram

3. INTERACTIVE LEARNING ENVIRONMENT

Synchronization is an important factor for an interactive learning environment. Interactive learning is a trend in present day learning system. Interactive learning focuses on achieving a common goal, encouraging the participation of all students. This system provides direct interaction between the lecturer, the student, parent and the system. Direct interaction increases the communication in teaching learning process. Also Parent can directly interact with the faculty members for query's and details about their wards.

4. METHODS USED

4.1 Security Method

MD5 : User Authentication

Authentication is done in order to prevent the unauthorized access to the system. To protect the password, MD5 method is used. It is an hashing technique which generates 128 bit hash value.

4.2 Attendance Method

Login Based : Ip range based Authentication

One way to secure a web-based application is to restrict access based on the IP address. You can block access to a specific address or range of addresses that you suspect belong to malicious individuals. The instance allows you to control access by IP address also allows to give access to specific group of people to access the network. Through this the logged in devices are analyzed with the previously registered user details to find the user id, then the concern user get attendance for the hour which he/she logged on.

4.3 Database

Php MyAdmin : For storage purpose, myadmin database is used.

5. DATA FLOW DESIGN

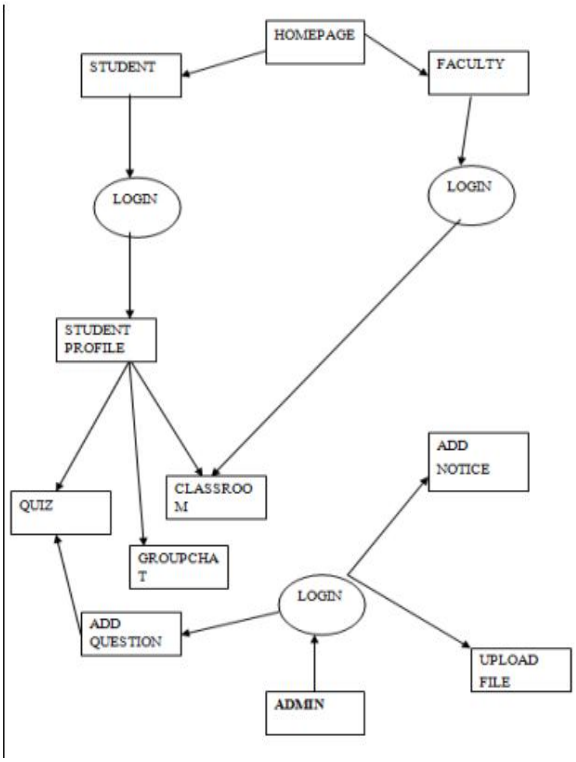


Fig-5.1:Data Flow Diagram

6. COMPONENTS USED

S. no	Component	Count	Specification
1	Server system	1	RAM : 8 GB HDD : 1TB Processor : i5
2	Network Switch	1	Port : 24-Port
3	Wifi-Router	As no.of classes (1 nos/class)	Simultaneous 2.4GHz 300 Mbps connection, for 1200 Mbps of total available bandwidth
4	Projector	As no.of classes (1 nos/class)	Display Resolution Maximum-1080p

7. PERFOMANCE MEASURE

NEX-GEN CLASSROOM system had the performance measure of ratios and comparisons. Once the users logged on to the system the performance is measured per class rooms as shown in fig.7.1. This measure is individual for each and every class rooms according to the router performance. The server performance measure is measured and shown in fig.7.2

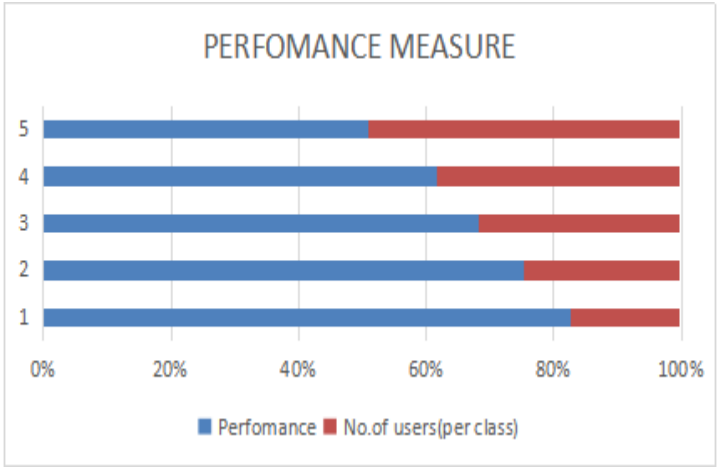


Fig-7.1: Perfomance Measure(per class)

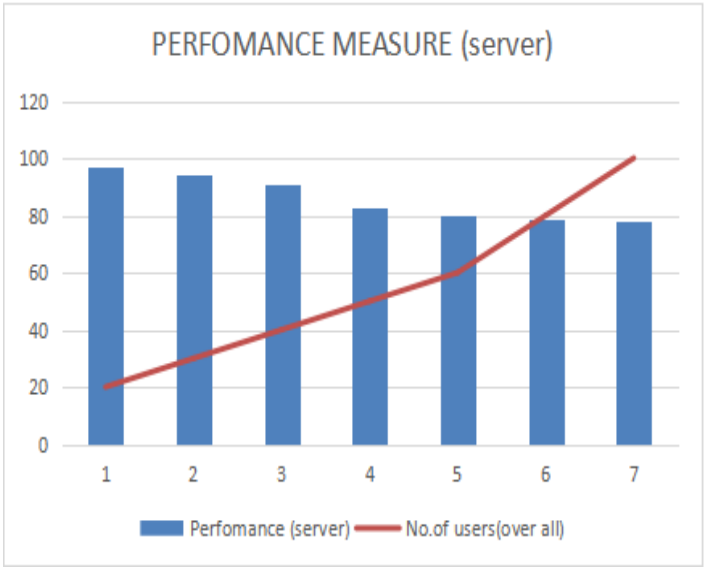
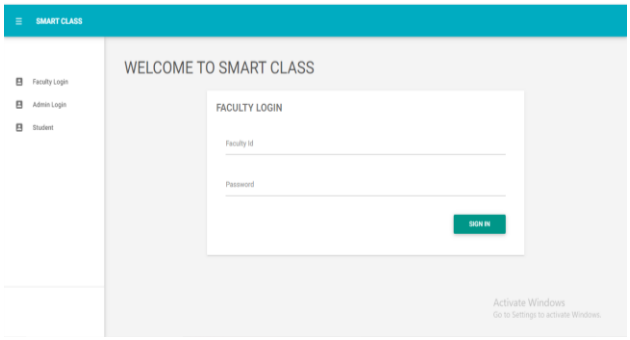
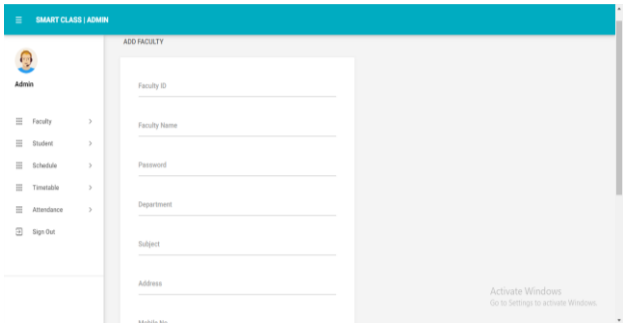
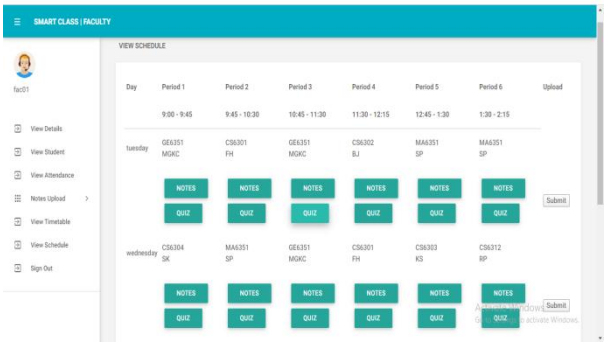


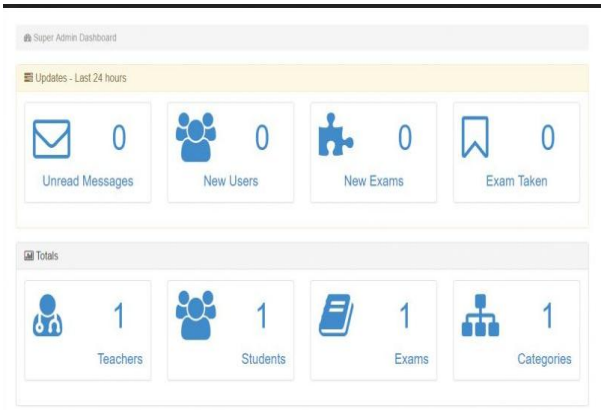
Fig-7.2:Perfomance Measure(server)

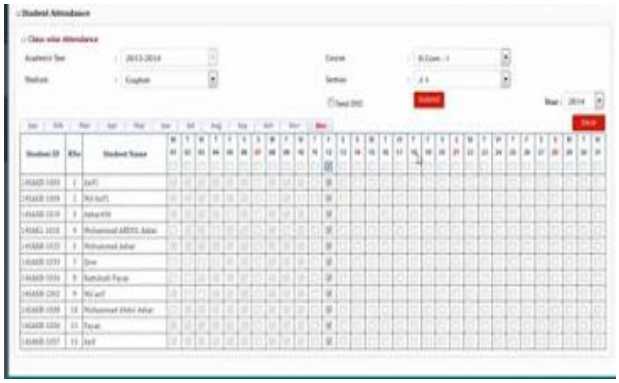
8. MODULE DESIGN











9. FURTHER DEVELOPMENTS

- ***The attendance module can be processed with the help of biometric details such as fingerprint and facial detection using image processing.***
- ***Devices that are restricted to install other applications can be used in order to prevent the students from being distracted themselves.***

10. CONCLUSION

This system acts as a centralized system to provide all kind of activities. The students can learn from their pace and comfort. This system promotes the distance learning type of education. Also the system can be made with the online conditions with certain rules and regulations for the distance education candidates. Hence this system replaces the traditional methods of teaching.

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