

## VIRTUAL CLASSROOM SYSTEM

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**Abstract** -This project is designed to develop learning surroundings that mixes "lectures", "e-Learning", "push-type school assignment assignments", and "online proctored exams", What is more. The program is tended to develop a push-type virtual-Learning system that allows learning with a computer for instantly and mechanically receiving assignments by e-mail. Not solely active students however additionally inactive students will get assignments by e-mail. Therefore, it is expected that a well-known and straightforward study scenario may be created by developing these virtual-Learning surroundings. This System, as delineated on top of it, will cause an error-free, secure, reliable, and quick management system. So it'll facilitate the organization in higher utilization of resources. The organization can maintain processed records and not redundant entries. meaning that one needn't be distracted by data that's not relevant, whereas having the ability to succeed in the knowledge. during this analysis, we tend to develop a virtual learning system for college students and lecturers wherever they will attend live lectures notes of the actual lecture and additionally give recording for the longer-term use. Additionally, it's more practical for lecturers to require online group action and distribute the assignments in line with every student's skill and we thus propose this push kind e-Learning system for assignments.

**Key Words:** E-learning, E-mail, Homework, Assignments, Secure, Recording, Proctored Exam.

### 1. INTRODUCTION

Research suggests that online literacy has been shown to increase retention of information, and take lower time, meaning the changes coronavirus have caused might be then to stay. While countries are at different points in their COVID-19 infection rates, worldwide there are presently further than 1.2 a billion children in 186 countries affected by academy closures due to the epidemic. Lately, the conversations aiming at next-generation education have come strongly active. The feasibility of using digital books and E-Learning systems has steadily bettered through the progress in information technology. Also, e-Learning is getting popular in companies or other educational systems.

Thus, traditional classroom-Learning has the disadvantage that it's of limited use to only those students who are able to attend the lectures. Rather, this project is intended to make a new e-Learning system to support all students of a particular class in the institution. this project is a virtual classroom system for students and teachers where they can attend live

lectures notes of the particular lecture and also give recordings for future use. Also, it's more effective for teachers to distribute the assignments according to each skill.

### 1.1 Problem Statement

The prospect of carrying a whole university experience compacted into a particular device is rare to say the lowest volume. it'll be horrifying for academe scholars United Nations agency have simply ever noted ancient area settings. traditionally, a degree of passivity is anticipated throughout lectures, extensively formerly note-taking and listening, whereas discussion with preceptors is distributed at a defined time. on- line knowledge demands springing into action, acceptive course material throughout a form of transmission formats, and taking part in online exchanges which could continue indefinitely.

### 2. LITERATURE SURVEY

[1] Zinah Tareq Nayyef, Sarah Faris Amer, Zena Hussain published in the year 2018 in the International Journal of Engineering & Technology. This work aim towards the peer-to-peer real-time communication system that allows user to communicate with high-speed data transmission over a communication channel using Web-RTC technology, HTML5, and Node js server address.

[2] Jasmin Paul and Felicia Jefferson from "Dept. of Biology, Fort Vally University" published in time 2018. This study compared the effectiveness of online vs. ancient instruction in the associate degree environmental studies category. This study sought to compare online and F2F tutoring on three situations — pure modality, gender, and class rank.

[3] Chun-Hung Richard Lin, Huan Zhang, Jain-Shing Liu, ShiHuang Chen published in the time 2020. This paper is the perpetration of a web-based video conference application by using WebRTC. The web-based video conferencing application is used for meeting and chatting. in this, Rather than using client-server centralized design, the media stream is encrypted and management program is constructed for managing the entry in the conference room and creating a multi-party video conference

[4] Libron Kelmendi "Traditional Learning Versus E-Learning" published in the year 2019 the axis of this research paper is to compare and contrast the methods of traditional learning in the classroom and E-Learning. The topic of this research paper appeared while considering the constantly growing trend of technology and as a consequence of the

present trends, the necessity for change to the methods of learning and teaching appears. With changes made to methods of learning, there'll be a rise within the learning choices, resulting in an advancement, improvement, and progression in education. Besides the methods of traditional learning and E-Learning, this paper will analyze the benefits and drawbacks of those learning methods, on the training sorts of traditional learning, which incorporates a physical place, usually, a classroom, where students and educators or teachers can interact and on the training sorts of E-Learning

[5] Christopher DC. Francisco and Marites C. Barcelona published within the year 2020 at Educator Department of Education this work aimed toward investigating the role of Eliademy is a web-based classroom in designing an alternate learning tool in times of emergencies. To achieve this desire, a scrutiny interview was conducted of the selected graduate students of La Consolacion University Philippines who had back-to-back three trimesters of Eliademy during the academic year 2018-2019. The results showed that the students were agreed upon Eliademy that it is constantly used as an alternative tool for teaching and learning. The study showed that Eliademy can promote time management, promptness

Designing it, and Managing out

[6] Jelena Caiko, Antons patlins, Arapov Nurlan, Vladimir Protsenko Video-conference Communication Platform Based on WebRTC they presented online meetings which show that many organizations have switched to remote work via video conferencing, but the complexity of organizing video conferencing arises thanks to the limited number of participants at an equivalent time, also because the need for giant and fully equipped conference rooms. This may not be a drag for an outsized enterprise, except for a little and medium-sized business, accessing video conferencing facilities either requires extremely high rents or is impossible. The goal of this text is to style and implement an open-source video conferencing prototype that solves the meeting challenges.

[7] Seth C. Oranburg published within the year 2020 at Duquesne University School of Law Research this paper provides some suggestions and comparatively quick and straightforward strategies for distance education during this time of coronavirus. While it's written from the attitude of teaching the school of law, it is often applied to teaching other humanities like philosophy, literature, religion, political orientation, and other subjects that don't easily lend themselves to charts, graphs, figures, and diagrams. This essay includes an introductory technology section for those technophobic faculty who are now being required to teach online, and it concludes with five straightforward steps to start teaching online quickly.

[8] Shivangi Dhawan published within the year 2020 in the Department of Commerce, SGTB Khalsa College, the University of Delhi which shows the importance of online learning and Strengths, Weaknesses, Opportunities, and Challenges. Also, the analysis of e-learning modes within the time of crisis this study demonstrated the expansion of Learning Technology start-ups during the time of epidemic and natural disasters and includes suggestions for tutorial institutions of the thanks to accommodating challenges related to online learning.

### 3. PROPOSED SYSTEM

#### 3.1 Aim and Objectives

The main aim of the project is to automate the task of teachers and students for the given work and also eliminate the manual paperwork as much as possible.

#### 3.2 Objective

- Video conferencing: Using the best web conferencing software to facilitate learner-teacher-learner communication
- Instant messaging: Allowing typed conversations on lower bandwidths.
- Participation control: Used to enable students to participate in virtual discussions, mute their environment and virtually "raise" their hands.
- Video Recoding: Saves the live lectures as video on demand for later references.
- End-to-End encryption: Only authorized learners are able to access the system.
- Take exam and get result: Using the system it is feasible to take the exam and get a score.

### 4. METHODOLOGY

The system is designed in such a way that the admin will firstly register the student and teacher and make a password. Secondly, the login credentials and link to change password will get delivered to students' and teacher's respective mail. After successfully changing of password the student and faculty can proceed to use the virtual system.



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