

## Live Classes

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**Abstract** - *Live Classes* is a web application-based for teaching to students. A good virtual classroom has built-in collaboration capabilities that engage students in active learning. A full tracking of student status until completion of course and getting certified. There are three modules Admin, Instructor and User. The Admin will manage the instructor and users once the user enrolls a course the admin will allocate the instructor to the enrolled courses. The application built using JavaScript library Next JS and Firebase for development and database storing.

**Key Words:** Live Class, Firebase, Firestore.

### 1. INTRODUCTION

The fast evolution of technology and learning methods has now been adopted by the people. The arrival of computers was the catalyst for this change, and as we become more reliant on smartphones, tablets, and other mobile devices, these gadgets are increasingly being used in classrooms for learning. Electronic instructional resource, such as optical disc or pen drives, are progressively replacing books. Knowledge may also be disseminated over the internet, which is available in 24 hours a day, 7 days a week, anywhere and at any time. Live Classes are designed to mimic the experience of actual classrooms while also providing file sharing, rapid feedback, and interaction, making them suitable for distance learning. An online system that allows students and instructors to connect and cooperate is referred to as a Live Classes. With technology breakthrough at an all-time high, the Indian Education System underwent some much-needed changes in the recent past. The emergence of online education is one of them. The convenience and possibility to learn more has expanded the scope of online education in India. In order to use the online application, both the staff and the students must first register. His lesson is posted after the staff logs in. When the student signs in, he or she may see all of the courses. If he has any doubts or questions, he or she can submit them and the instructor will respond. The student should complete the quiz and assignment assigned and an exam in order to get the certificate.

### 1.1 Existing System

The current system is either fully automated or semi-automated. Paperwork in the form of keeping multiple files and modules is part of the manual system. Maintaining vital data in files and manuals is a risky and time-consuming operation. The drawbacks of a manual system are as follows:

- It's a restricted with a smaller user base.
- Searching for specific information is crucial, but it takes a long time.
- The information must be saved in the form of files in the present system
- If the data is on paper or drives, only limited sharing is feasible.
- Organizations which might lead to agonizing experience for a customer.
- The manual approach provides us with less protection when it comes to data storage, and some data may be lost due to mismanagement.

### 1.2 Proposed System

Keeping in mind the major challenges specified under existing traditional system, the proposed system tries to implement E-learning system effectively. The application mainly consists of three modules admin, user, instructor. The admin profile is to maintain and update the users and instructor enrolled information for a particular course, and tag the right instructor to the right user based on the course that the users enrolled. The user had to register first through Phone Number and verification via OTP and look for his interests in available courses and enroll the course. The admin will check the status and confirm the course. After that the instructor track his overall course completion by assigning quiz and assignments. All the

required data is stored in fire-store database with separate collections of three modules. And Next JS library is used to build the web application Node JS as back-end. And other tools like Material UI, figma, Formik etc.

## 2. DESIGN AND DEVELOPMENT

### 2.1 Objectives

- To develop a digital platform which can be useful for the students to adopt and learn the things anywhere any time.
- A dedicated software for admin, teachers and students to connect and recognition among their educational community.
- A platform that can used as centralized platform for maintaining of all course related events like assignment submission, quiz's and attendance.
- To overcome the paperless submission of materials and that are currently a problem for more number colleges to maintain a large number of documents.

### 2.2 Tools and Technologies

Next JS, HTML, CSS, JavaScript, Figma, Material UI, Formik and Node JS for developing the UI/UX.

**Front-end:** Allows Users to view the course and register to the application and enroll the course and view the contents.

**Back-end:** Node Package Manage), Firebase API for Authentication through Phone number, Email. Fire-store database to storing and getting the data.

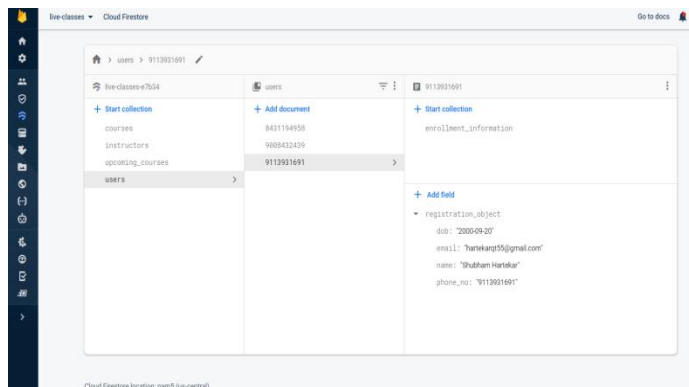


Fig-1: Users enrolled course details from firestore.

### 2.3 Methodology

Initial the users have to register through mobile number and authenticated via OTP. The courses are enrolled based on the interest of the users. Once the

course is enrolled the super admin will able to assign the right instructor to the enrolled course, sending a notifications and updating courses. For instructor also registration is done through email and password after the registration the necessary details are taken from the instructor like graduation type, teaching technology that are known and certifications etc.

Now, the instructor can see the how many users are registered for the courses and able to give him all course related material ,classes and assignments etc. Also the users can view the course session details, quiz's and assignments in the form of Docs and PDF from the instructor side and complete it within the given time stamp and

There will be a peer one to one e-learning platform will be done and tracking of users details until he or she finishes the courses.

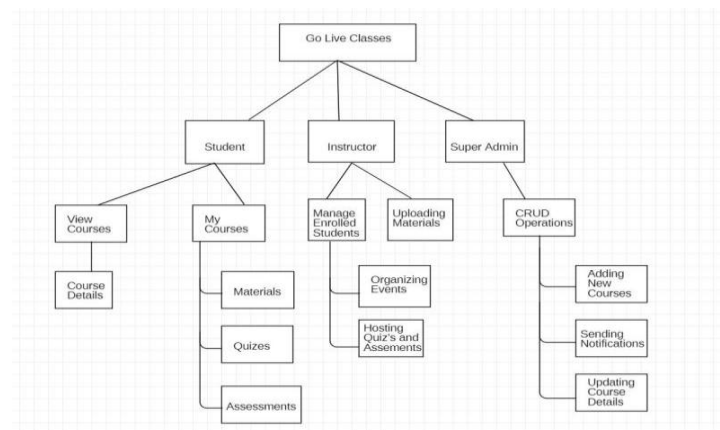


Fig-2: Architecture Diagram of the system.

## 3. CONCLUSIONS

Through live class application the institute can easily adopt e-learning platform and also maintain the student learning courses regarding academic or external new tools and technology that are enrolled and centralized platform for maintaining of assignments,quiz and attendance systems events and easily track of student performance through this one can achieve a live one to one tutoring platform for getting courses.

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