

# UniCord- A Community Server

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*Abstract— 2019-20 pandemic brought a drastic change in education system where we progressed from in-person modality to the virtual one, arriving to use many e-learning tools like Google Meet, Zoom, Teams, among others. Therefore in this project we aim to have an alternative using the methodology which would meet all conditions to be an online learning tool. This aims to have a platform where students can create different channels and create their own community. Features like instant messaging, group messaging, keeping track of latest current affairs and authentication makes this application more appealing. Firebase has taken care of the data and has given various organizations like Firebase Authentication, and has also offered a help in crash uncovering.*

*Keywords-e-learning; messaging; authentication.*

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## I. INTRODUCTION

The need for online learning platforms has been ever increasing and has been pretty apparent since the Covid-19 times. Over 63 percent of the world populations around the world use the internet today and the number is rapidly increasing meaning that the online learning community and its growth is fated to increase exponentially.

In this paper we aim to highlight the current online learning scenario, its shortcomings and how our solution tries to fill the void. The void that online learning has filled in these difficult times was a big one and the potential of e-learning is greatly apparent. But one major shortcoming is that there is no proper learning place for students where they can learn online, submit assignments, carry out their lab assignments, ask doubts and communicate with their teachers and many more features. On the other hand, universities and institutions don't put in enough effort in developing their ERPs according to the needs of faculties and students. This creates more ordeal and stress for students who already have a lot on their plates.

To find a solution to this, we decided to develop a 360 degree system for both faculties and students which takes care of these extra hassles for them while they focus on more important tasks. Its design is similar to Discord but we decided to direct it towards more of an academic direction where it would work towards benefiting the e-learning community. Real-time communication (RTC) is something related to the theme of e-learning [4]. It is a crucial component of communication networks. Communal voice communication, conferencing, and chat are widely utilized and favored today. These features integrate well with applications and services for IP networking. Although some of these service models already use WebRTC, others demand downloads, native programmes, or third-party extensions. Our system provides these features as an integral part of e-learning without the extra hassle. Moreover, it integrates

features like assignment submission, lab work and doubt discussion all at one place. Using our technology, teachers can set up a server that serves as a virtual classroom, store student accounts there, allow group voice and chat rooms, and then divide students into groups for in-class activities. The teacher can keep an eye on the kids' progress and study in the chat rooms, as well as how focused the teams are and how crucial their participation will be.

In this paper, it is our intention to display how useful and successful our application is for online collaboration and learning.

## II. RELATED WORK

Online communities have been a hit due to implementation of large scale decentralized projects in recent years. The book 'Becoming Virtual' (1997) by Pierre Levy has been influential and is proven by many scholars to do so in the last 2 decades.

In addition to the active research, the researchers have investigated the standard features of online community management.

Author reaffirms the importance of online community management techniques and suggests classifications and even critical views on existing practices. Others have attempted to develop a standard approach to community building and innovations to support the same. In order to encourage participation in these communities, these tools help individuals extract information from them.

Since the 2000s, the online community has become another subject of research originating in network science, while the network being a representation of relationship between human groups has provided considerable insight to social sciences since the work of social measurement scholars in the 1930s. Phenomena such as effective dissemination of information, introduction of innovation and mediation have all been examined from a network perspective [2]. With the availability of new datasets that

encode human interactions, many online communities have been portrayed as social networks. This was represented greatly by platforms such as facebook;; Microblogging platforms such as Twitter [1]; News sharing services such as Digg [1]; Co-editing projects such as Wikipedia. Discussion forums such as the Java Forum, error reporting service like Bugzilla[3].

In general, such communities represent participants as nodes and the edges represent the relationships or the interactions. The type of interaction depends upon the online community. Borders can represent facebook friendships. Follow-up relationship with followers, retweets, and mentions on Twitter. Vote or comment on Digg and Java.

Unlike collective intelligence scientists, network scientists do not address online community issues and social networks that result from online interactions as a full experience.

**III. LITERATURE SURVEY**

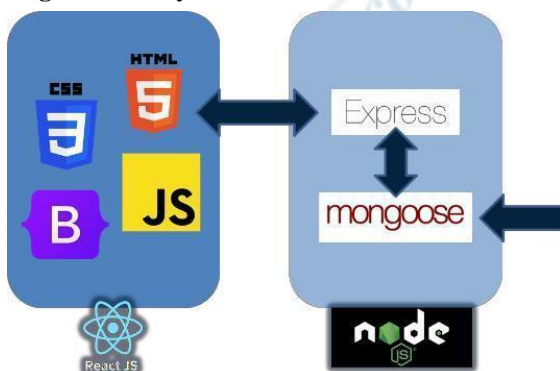
Community College Resource Center (CCRC) along with Florida Department of Education’s Division of Community Colleges and Workforce Education, and funded by the Lumina Foundation for Education [4]practiced a college community management. It emphasized the use of data to drive change, with work focused on a variety of areas, including technical support for individual community colleges, research, public engagement, and public policy to increase college student success

Talk application is an android application as android has most helpful working frameworks.the main motivation behind this was to permit clients to have the choice to visit with one another[5].It provides the framework where the clients will have the option to trade the messages among themselves.

Firebase is a NoSQL databases that uses connections that allows customers to store data and provide various organizations like firebase authentication and also the steady firebase databases offers us a help for crash uncovering.

**IV. METHODOLOGY**

**A. Materials/Components/Flowchart/Block Diagram/Theory**



Firestore:Firestore is NoSQL database which is used to store data and it provides various features like firebase authentication and also offers help in crash uncovering.

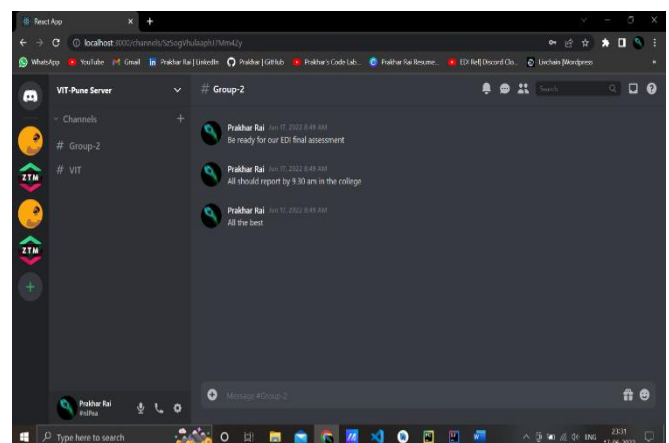
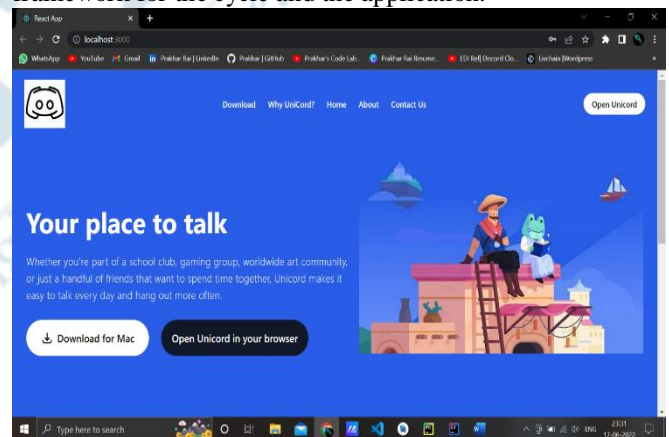
**B. Components**

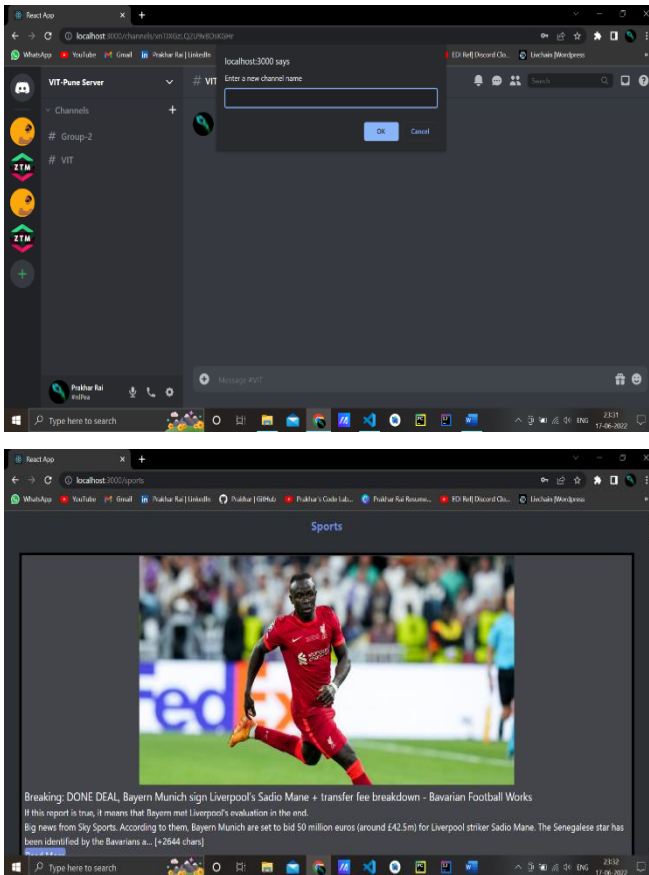
- Front-End Web Tools –
  - React JS
  - Tailwind CSS
  - HTML
  - Javascript
- Back-End Web Dev
  - Node JS
  - Firebase
- Database
  - Firebase Cloudstore

**V. RESULT**

The application advancement measure's exhausting and overwhelming nature should come as no surprise. There have been a tonne of cycles and steps to take, and many dynamic instruments are also incorporated.

However, we have made a sincere effort to cover the numerous circumstances and possible consequences you can encounter. There may still be issues that are not related to the situation, but this guide should help you create the basic framework for the cycle and the application.





## VI. CONCLUSION AND FUTURE SCOPE

Our main objective is to provide a platform where users can discuss the common portfolio. This web application focuses on channel-based connectivity, where different clients can communicate with each other over a common group, based on common conversation goal. Further, we are focusing on building up audio and video communication channels, which can help clients to communicate more effectively on a common platform, rather be dependent on multiple communication platforms like Google meet, Telegram, WhatsApp, Microsoft Teams etc.

As in future we also aim to add more interest based sections for users to choose and make more than one server for different types of users having different server channels. The server can be more appealing by adding group call feature and group video call feature.

## VII. ACKNOWLEDGMENT

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