

November 2022

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Recommended Citation

Aggarwal, Mukul and Tariyal, Himanshu (2022) "Proposed Web Application for Guidance and Support of Students: SmartLAD," *International Journal of Computer and Communication Technology*: Vol. 8: Iss. 4, Article 1.

DOI: 10.47893/IJCCT.2022.1425

Available at: <https://www.interscience.in/ijcct/vol8/iss4/1>

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Proposed Web Application for Guidance and Support of Students: SmartLAD

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Abstract - In this paper, SmartLAD is a Support Platform that connects students, mentors, and professionals of the field and enables them to share their knowledge and experience. We equip the students with a powerful network to rely on, skill-oriented courses that impart real-life skills, and experienced mentors to guide them. Our platform helps students to stay focused on their goals and keep on working hard to achieve their dreams. SmartLAD works as a Support Platform that helps students in their journey of being successful and excelling in their careers by providing them with skills, resources, guidance, and network. We help the students by providing them with a Network that the students can use without any charges and limits and can connect to people and share knowledge.

Keywords- Online Education, Students, Mentoring, Skill - Oriented, Teachers, Career

I. INTRODUCTION

India is a country with a population of more than 140 crores [1]. Out of this huge number, 19 % of the population is the nation's youth which is a great percentage. India has more than 310 million students studying in schools and colleges. But most of the students are not clear about their future career and they don't have a proper goal in their mind. Most of the school students decide their career based on what society thinks is right and follow the majority's choice without questioning them. They end up choosing the wrong profession and end up regretting their decision. This article targets this problem of the students and helps them choose the right career. SmartLAD is a Support Platform that helps students by providing them with skills, resources, guidance, and network. SmartLAD targets all these mentioned problems and tries to provide one unique solution to all of them in the form of a full-

time support platform. Within this platform we provide a Network to Students through which they can connect to people of different fields and different regions, share knowledge among people with similar interests, and get guidance from professionals of the field in no time. SmartLAD provides chat rooms dedicated to different fields of the real world to all its users where they can connect with many people who work and are interested in the same field and chat with them in real time.

1.1 PROBLEM DEFINITION

A very common problem observed in the students today is that a lot of students are confused regarding their future and the career they have to pursue. They have very limited information regarding the different options available to them in their life and most importantly they do not have a proper mentor who can guide them in the field of their interest. They also lack a basic network of friends and people who can guide them and whom they can get connected to and learn new things. Today there is no such platform dedicated to students that they can get connected to to solve these issues and most of the students are confused about it. We target this problem and focus on solving it by providing them with a support platform that can provide them with these features and can help them decide on a career for themselves.

1.2 ARTICLE OVERVIEW

Our article is focused purely on these issues listed above that the students face in their daily life. We target this problem and focus on solving it by providing them with a support platform that can provide them with features that target all these problems and can help them decide on a career for themselves. The application that we have developed is a web application

that is hosted online and is readily available to all the people across the world. The article provides users with dedicated chat rooms that they can join and discuss with other people about their field of interests. Each chat room is filled with people who are related to one single field and they are readily available to help new students by clearing their doubts.

1.3 FEATURES DEVELOPED

Model is developed the following steps and fill the gap between the traditional and smart education.

- a) To provide students a network they can connect to and learn about different careers and explore new fields.
- b) To bring together students, scholars, and professionals of the field on the same platform so they can share their knowledge and guide students.
- c) To provide students with a support platform that drives them and keeps them motivated towards their future.
- d) To provide mentors and teachers a platform that they can use to get connected to students across the world.
- e) All the services provided by the platform are free of cost and without any hidden conditions.
- f) To provide a medium that is open to all, and anyone around the world can use the platform.
- g) To provide a medium that is available 24 x 7 for its purpose.
- h) To provide a platform that is simple to use for new users, powerful and full of features that help users.
- i) To provide a platform that is secure and that makes sure that the data of its users is safe and confidential.

II. LITERATURE REVIEW

A. Existing System

In existing systems, we found that there was no specific platform that helps students by providing them guidance. Those who were giving 1 on 1 mentorship were all paid and were not affordable for all the students. Also, students had no way to be in touch with the industry professionals and ask them for guidance as they were lacking the fundamental network that would connect them with professionals of their desired field. There is no existing platform that helps the students and solves all these problems most effectively as we are trying to do.

B. Feasibility Study

The article idea is practical and feasible. We have worked with all the necessary technologies and have a good amount of experience with them. As there is a huge population of students in India and most of the students face these problems, our solution is the need of the hour. Currently, there is no such platform that focuses solely on students and provides them a network to connect with other students, mentors, and professionals so it is a very unique idea.

C. Motivation

India is a developing country and is the country which has a great percentage of youth in which many are still students. A very common problem observed in the students today is that a lot of students are confused regarding their future and the career they have to pursue. They have very limited information regarding the different options available to them in their life and most importantly they do not have a proper mentor who can guide them in the field of their interest. They also lack a basic network of friends and people who can guide them and whom they can get connected to and learn new things. Today there is no such platform dedicated to students that they can get connected to to solve these issues and most of the students are confused about it. We target this problem and focus on solving it by providing them with a support platform that can provide them with these features and can help them decide on a career for themselves. Since a lot of students are starting to use social media applications, we had the idea to build a social media platform that will help students by guiding them.

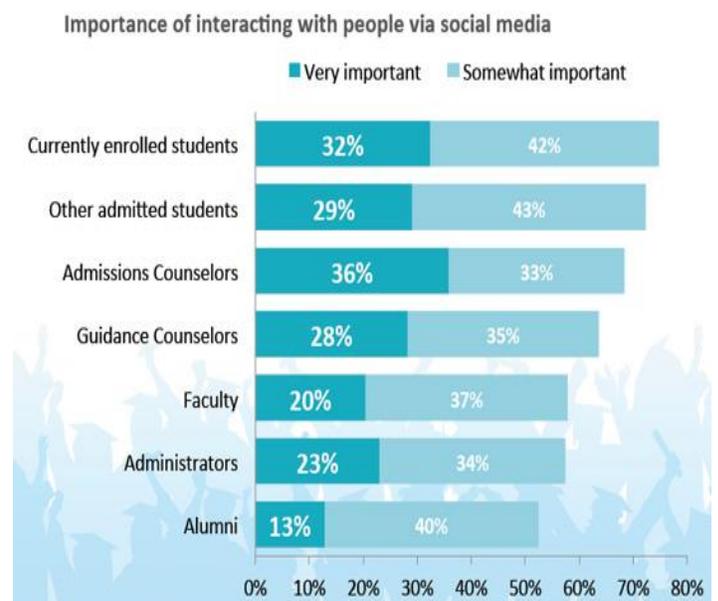


Fig 2.C Importance of interacting with people via social media [11]

III. MATERIAL AND METHOD

We have used the below mentioned technologies for development of our platform where for the frontend part we have used React Js library and for backend NodeJs library.

A. React JS

We have used React Js library to develop the frontend of our application. As React Js is among the most powerful frontend library in the market and with all the features it provide for developing dynamic web applications, it was definitely our first choice. [2]

B. HTML CSS

The HyperText Markup Language or HTML is used for designing and structuring web pages that are read by the web browsers. Our web pages are built using HTML and CSS and follow proper HTML and CSS guidelines. [4]

C. Visual Studio Code IDE

Visual Studio Code, also referred to as VS Code, is a simple code editor that is open source and widely famous among developers. VS Code provides various extensions that can be added and the editor can be customized as per the user's requirements.[5]

D. Database

We have used a MongoDB database that is a NoSQL database. MongoDB is widely popular for its robust and dynamic nature. For this application we uses MongoDB Atlas which is a cloud version of MongoDB and provides a safe and secure data storage facility. [6]

E. Node Js

We have used Node js as the library to develop our server. Node Js is asynchronous and single threaded and provides the feature to make a robust and scalable backend server. We have used Express Js which is a Node Js framework and provides various additional features and reduce the development time. [7]

IV. RESULT

4.1 Login Section

The first screen the user sees when he goes to the application, the user can login with his username and password (Refer Fig 4.1) . The whole application is token protected and the users can't access the site without signing in. The application uses

JWT token based authentication and each api call is token protected. Test credentials are (username: himanshu@gmail.com, password: Abcd@123)

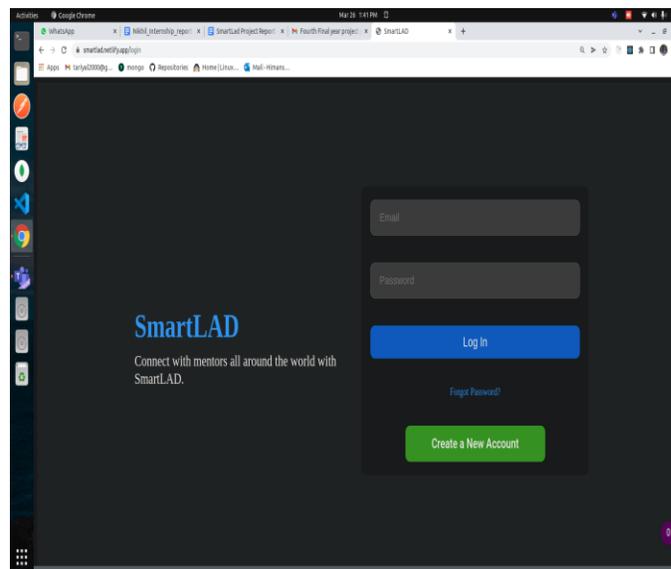


Fig 4.1 Login Screen

4.2 Register Section

Along with the login screen we also have a register page. In this page new users can be registered to our platform. The user has to enter a new username, his email id, his profession and then choose a strong password to register to our application. The password must have one capital letter and a special symbol for added security and all this information is stored in the database with the password in encrypted format so that no one can see your password and it remains hidden. (Refer Fig 4.2)

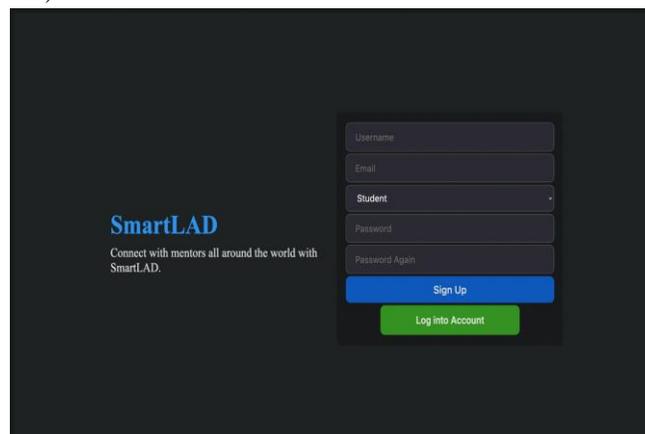


Fig 4.2 Register Screen

4.3 Feeds Section

By clicking on the feeds menu in the sidebar the user gets redirected to the feeds section. In the feeds section the user can view all the posts of the users he/she follows and the people who are in his network and also react to their posts. He can also create a new post by himself and share images if he wishes to attach with the post. The users can react on the post by giving likes and votes to the post he likes and encouraging the author of the post. The posts are stored in the database along with the reactions in them. (Refer Fig 4.3).

4.4 New Post Creation

The feeds section enables the user to post his thoughts and share them with his network and show them to his friends and mentors. At the same time the user is able to see the thoughts of other people in his network and get guidance from them

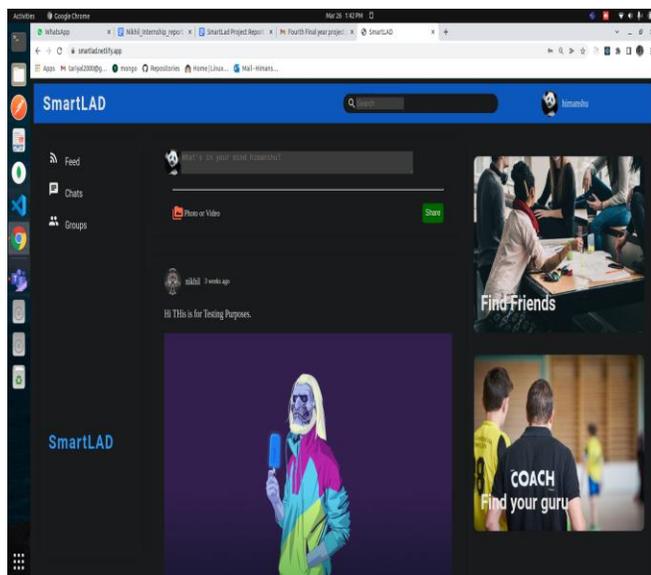


Fig 4.3 Feeds Section

For creating a new post the user can type his message in the message box and write his thoughts in it. Then he can also insert images if he wishes to share by clicking on the photo button below and choosing the photo from his local computer. Then when he clicks share button, the post will be published and will be available for all other users to see and react. (Refer Fig 4.4)

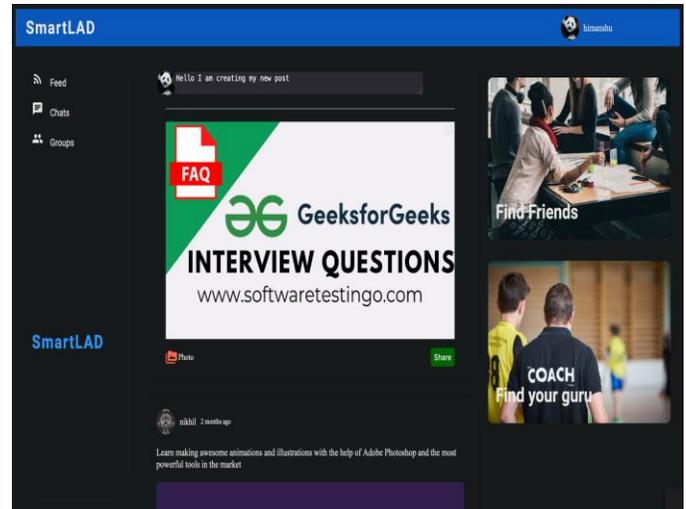


Fig 4.4 New Post Creation

4.5 Personal Chats Section

By selecting the chats menu from the sidebar the user is navigated to the chats page where all his personal chats are stored. In the personal chats section the user can see all the other users he/she has chatted with before and can resume chatting with them by clicking on the start chatting button. It also shows the latest message present in the chat along with the timestamp for the user's reference. (Refer Fig 4.5)

The personal chats section enables the user to communicate with other users he or she is inspired by in private and get guidance directly from them. Using the private chat feature the user gets the ability to connect with new people and add them to his network.

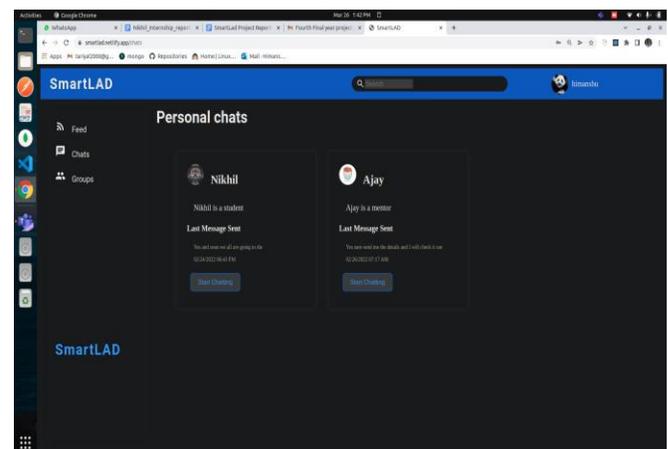


Fig 4.5 Personal Chats List Section

4.6 Private Chats Section

After clicking on the start chatting button the user is redirected to Fig 4.6 where he can start private chat with his friend. He can send messages and receive messages from the other user in real time. (Refer Fig 4.6)

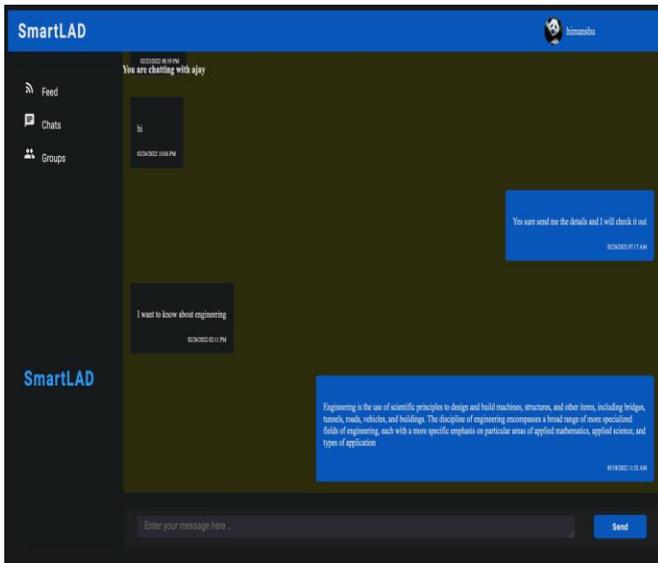


Fig 4.6 Private Chat Section

4.7 Groups Section

By selecting the groups menu from the sidebar, the user is redirected to the groups page. In the groups page the user is presented with a lot of different groups that he/she can join and start chatting with people who have similar interests. The groups section has two parts, the first is group listing where the user is presented with the list of all the different groups available. The groups right now are fixed and no new groups can be created by the users. Only the admin can create new groups and normal users do not have this permission. (Refer Fig 4.7.1).

The second part is the group chats section. This is the main section where the user actually chats with other members of the group. Here all the chats of all the users are present and the user can add his message and post it for all the other users to see. If user likes the chats of a particular member, he can click on his username which will redirect the user to the profile page of the user. Then the user can follow the user and start chatting privately with him. (Refer Fig 4.7.2)

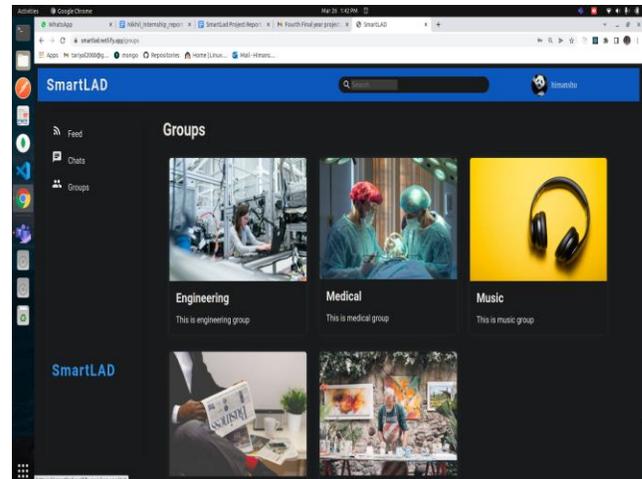


Fig 4.7.1 Groups Listing Section

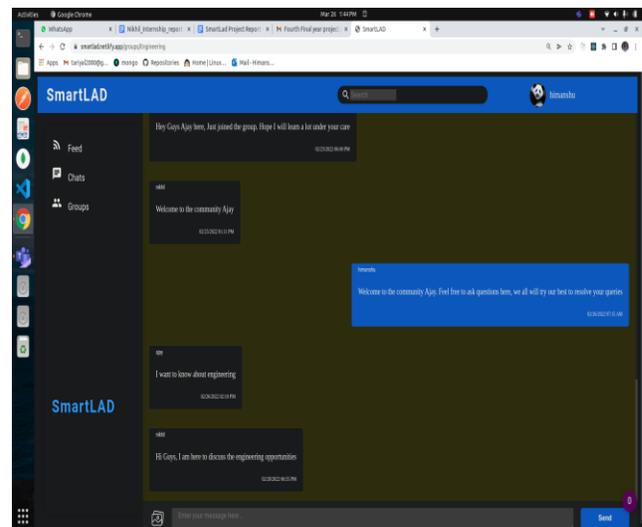


Fig 4.7.2 Group Chat Section

4.8 My Network Section

The user can navigate to the my network section by clicking on the user profile icon and then selecting the “ My Network “ menu from the menu list. The network section contains three parts to it. The first part is the suggestion part where the user is suggested new users based on the interest of the user. The user can click on any of the user and he/she will be navigated to the profile of the user. The second section is my connection section which provides the list of people the user follows and is connected to. (Refer Fig 4.8)

The third section is the follower’s section. This section tells the user about all the other users that follow the user. Each user is shown in a card along with his name, profile image and area of interest of the user.

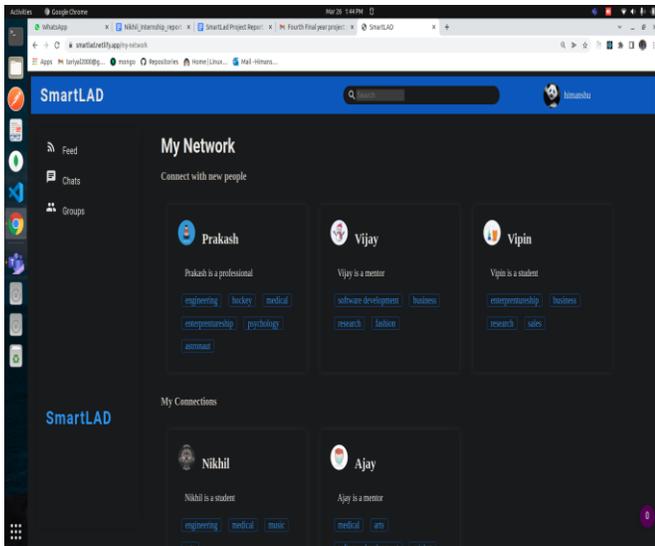


Fig 4.8 My Network Section

4.9 My Profile Section

The user can navigate to the my profile section by clicking on the user profile icon and then selecting the “My Profile “ menu from the menu list. The profile section contains the user’s information like his username, email etc. The user can change his profile image and even the background banner and customize his profile the way he wants. (Refer Fig 4.10). The “My Interests” section is a very important section in the profile page. In this section the user can select the fields in which he has interest in. Then these interests are visible to the other users who view their profile.

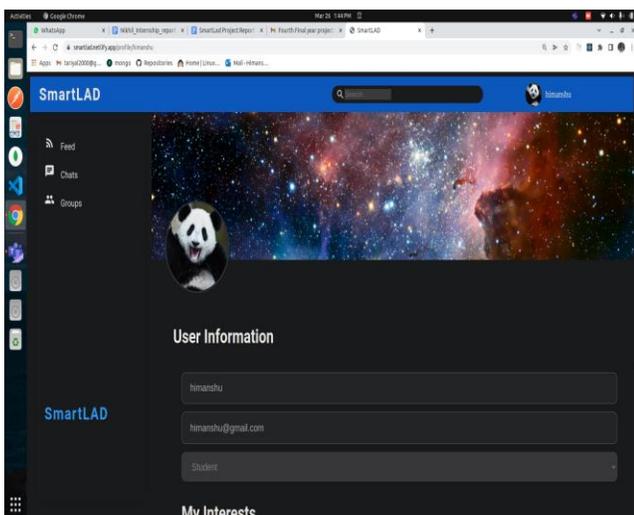


Fig 4.9 My Profile Section

V. ARCHITECTURE OF PROPOSED MODEL

SmartLAD follows a very simple architecture where we have one server that holds all the business logic and computation and we have a client which requests information from the server and displays it to the user. The server can serve multiple clients at a time and this makes it a centralized system. (Refer Fig. 4.11)

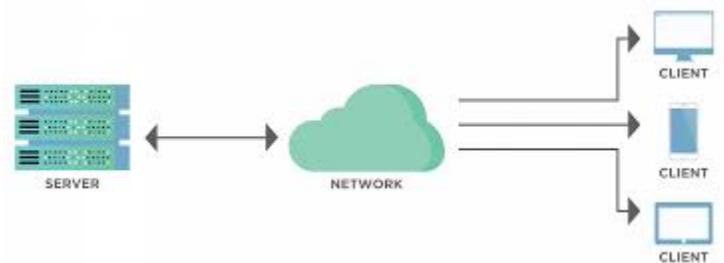


Fig 5. Physical Architecture of SmartLAD [8]

VI. CONCLUSION

So, if we talk about the conclusion, we can say that our Smartlad is working properly after passing each test case. This application is capable of helping the students find the best field for their career with the best result. It is also capable of helping a lot of students and guiding them to the best of their abilities in the right direction. The web application targets all the problems mentioned and provides solutions to each one of them in an optimal and practical manner. All the data is stored in the cloud, so it is very safe from unauthorized users, it does not contain any duplicate entry, So finally we can say that our app has the capability of solving the mentioned problems which have been faced by the students in their day to day life.

VII. FUTURE ENHANCEMENT

The application has a lot of scopes to grow and there are multiple areas where it can be enhanced. We can add separate power control for the mentors and professionals that can help them manage interactions with the students and can analyze their work. We can also add new sections for providing courses and interaction meetings and add a video conferencing feature for the mentors to take online sessions along with the users and serve this content with a content management

system. For the groups module there can be a separate management system that can analyze the chats of the group and generate understandings on the basis of that. It can also manage the data and media related to the specific group and can provide valuable resources to all the members of the group.

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