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Quora for IPEC Using MERN Stack

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Abstract: ***In Today's world, technology and communication networks are getting wider day by day. With time and development of technology, people (especially college students) are changing their ways to communicate and educate, they want to stay connected with their peers, seniors, teachers as well as the world too. QUORA FOR IPEC using MERN Stack is a question and answer website which allows users to get connected with people through a digital blogging platform from any distance and consisting of results, blogs, placement records and Question Answer based features to get the latest updates of the environment associated to IPEC. The main focus of this QnA platform is to connect users to their friends, teachers, seniors and peers as well as one can be notified by the Admin to get all incidents and information taking place around the college [1].It's a platform to ask questions and connect with people who contribute unique insights and quality answers [2]. That said, the biggest concern about this type of crowd-sourced information is whether the information given is actually factual, or at least, completely correct. Luckily, many of these woes are eased due to the fact that industry experts, college pass outs and teachers can often use QUORA FOR IPEC for rectifications and to provide answers.***
Keywords: MERN Stack, QnA Platform, Communication Network, Online Platform.

I. INTRODUCTION

QUORA or Blogging websites now have more global users than traditional social networks, which means they play an increasingly important role in the distribution of digital journalism in the future.

Drawing upon case studies, we identify a number of opportunities and challenges for organisations using or hoping to use the Question and Answer platform for a particular college. As now more than 70% of total visits on top digital websites i.e. QUORA. An ecosystem that demonstrates immense uniqueness, each offering an opportunity to engage with friends and connection in an unforeseen chat or blogging environment [3].

It has the ability to send numerous formats of media files like images, short videos among many friends as well as capability to create new posts with selected type of posts, it makes the experience even more exciting by having extensive features like access of the toppers list in the results section and information regarding placements are the things that can be notified by Admin with new updates [3].

One of the biggest concerns with the existing QnA based platforms is that they cater a very huge audience and consist of articles, blogs, information that are outdated in nature and cannot be used to draw a conclusion regarding a particular agenda. This website gives a vital chance to resolve doubts and questions as quickly and as accurately as possible. One doesn't have to rely on older posts to gain incomplete information or insights. Given the crowd being limited to college only it is easier to maintain.

A. Background about Project idea

[1.1] Excessive usage of the social media among the youth is disconnecting them with the real world day-by-day and pushing them to the unrealistic world which is just causing lack of awareness and poor academic performance. This particular unawareness causes an absence of purpose in life as well.

But if a platform exists solely intended for enlightenment of students via posts related to educational domains, doubts and interests of individuals then building a new habit of reading updates and communicating with other people will help people to build up accuracy, balance, objectivity, and a clear mind-set in their personality.

Here one can meet like minded people and resolve doubts and learn new technologies via blogs, answers and posts. The barrier of hierarchy gets broken easily as an individual will be contributing as much as it can regardless of it's position in the college and can gain recognition and applause, which increases the desire to learn and save time in order to learn more whether for a new individual or an experienced individuals.

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II. LITERATURE REVIEW

1) Communicating through social web applications have world-wide users, every time whenever something happens they instantly want to connect with their peers instantly, which means they play an increasingly important and major role in the distribution of digital content in the future. Observing case studies, we identify a number of opportunities and challenges for organisations (College) using or hoping to use social blogging Site for Question and Answer purpose. As of now more than 75% of total visits on top digital websites arrived i.e. QUORA, the need for developing website-specific Blogging Sites has increased. An ecosystem that demonstrates immense uniqueness, each offering an opportunity to engage with community and connection in an unforeseen QA Platform environment.

2) MERN Stack is a Javascript Stack that is used for easier and faster deployment of full-stack web applications.It comprises of 4 technologies for creating a full stack web page design namely which are : MongoDB, Express, React and Node.js. Using this 4 technologies a complete ecosystem of front end, back end and server end is created for a dynamic and responsive website for the purpose of question and answers along with blogs, results, placement. records.

3) Before creating a full stack project a cost analysis has to be done in order to know to what extent the project is achievable under given cost. For creating Quora which consist of 300M+ American user base. So one has to keep in mind the factors such project size, complexity level, maintenance, database integration, design and deployment cost, etc.Keeping all at check the complete analysis of project was done.

It has the ability to send numerous formats of media files among many peers as well as capability to create any post regarding anything, it develops the experience even more exciting by having the extensive feature of access to news of popular or any essential news or any needed questions.

A. Objective

1) To provide an easy way to communicate with students, seniors and teachers anywhere in the world by uploading and receiving posts in real time.

2) To provide a feature of request to follow new friends, and start a fresh texting or uploading posts.

3) To keep the user up to date by reading live updates and articles from the different students in a single platform.

4) To provide updates in segregated form for reducing the complexity to search posts in a common field.

5) To allow both public post and private particular post.

6) Complete end-to-end encryption to protect the privacy and provide security to the user.

III. PROPOSED ARCHITECTURE

A. Scope of the Proposed Work

Communicating through social websites has world-wide users, to interact the users to the other one. Our website provides rich features; this website delivers incredible live communicating experience and allows the users to share their text post, images, and other media content. They play an increasingly important role in the distribution of digital journalism in the future.

B. Architecture



Figure 3.1 Complete Overview Architecture

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C. Authentication

Identification of a person is most important in terms of security and knowing of a person as well, to protect the user's device authentication includes Sign up or Sign in with E-mail and get verified with an authorised username. After a user signs in for the very first time, a new user account is created and linked to the credentials—which means the user information like name and passwords, phone number, email or authorised provider information—the user signed in with. This new account is stored as part of MongoDB and can be used for user identification across every web application in the project, regardless of how the user signs in.

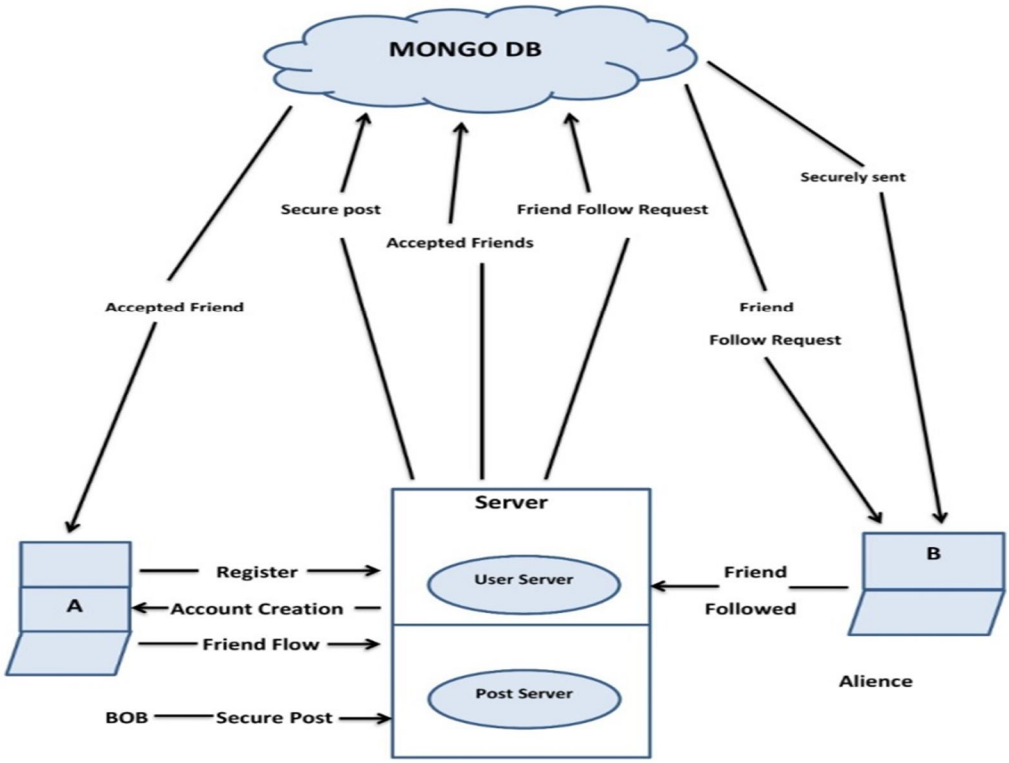


Figure. 3.2 MongoDB Authentication Layout Diagram

IV. DATA SOURCE

A data source can say is the initial location where data and information is stored. A data source requires a database, a flat file or any live measurement for physical accesses. In our project "QUORA FOR IPEC" we used "MongoDB" as a data source and database. It is a NoSQL (Non Structured Query Language) Database System which uses JSON-like documents with optional schemas. To connect MONGODB certain information is required which are mentioned as follows: In the very first step make sure your IP address is there on the Whitelist. In the next step make sure that a person has a user account and password on MongoDB that you want to use. The Last step is to login, open your browser and login in to MongoDB. It stores all the data which we create in our project and shows it on the database, like username, password, account information, posts, etc. The admin gets full control of the same and can view, manipulate and make changes if required.

MongoDB offers a maximum BSON document size of 16 megabytes which helps to ensure that a single document cannot use excessive amount of Random Access Memory(RAM) or during transmission, excessive amount of bandwidth. MongoDB doesn't support duplicate field names.

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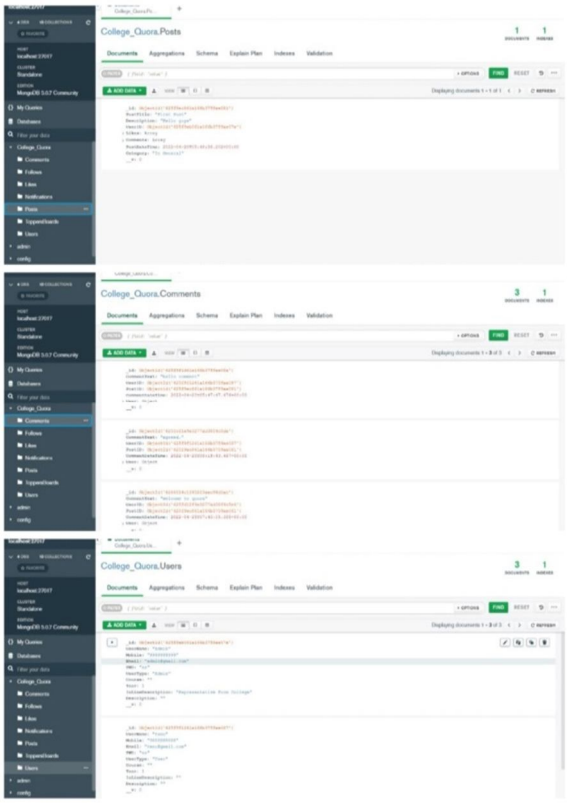


Figure 4.1 MongoDB Database Account

V. APPROACH

It is important before we start the creation of website is just one of the steps in the web design process and it's not the first one. Usually a website has a minimum of five pages. It can go up to thousands and thousands and thousands of pages, and I understand that, so we're not going to talk about blogging or any of that kind of stuff. We're just going to talk about the main content on our website. Basically this website is like a QnA platform which we built for our college In this website, You've got a Home page, You've got a login page, you've got a create new user page, You've got an "Q & A page."- in which you can ask any question related to IPEC, also post event and query images. Also you can like and dislike any post, comment on it even if you want to delete that comment later you can. This website have categories on left side there some blocks are available like all post, sports, study, notification, event etc. you can use these categories it may help you to know more about IPEC. Other functionalities is data like results, placement records which will be updated by the admin at regular intervals. The post which can be manually deleted by the admin if not upto the mark or if contains inappropriate content which is not suitable for the people present on the platform.

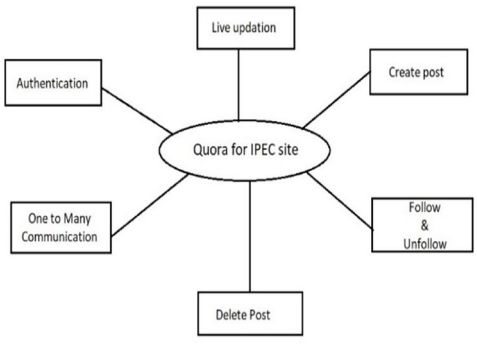


Figure 5.1 Zero Level DFD - Quora For IPEC

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VI. METHODOLOGY

A. MERN Stack

MERN stands for MongoDB, Express.js, React.js and Node.js respectively. These are four key technologies in the market currently which can be used to design a full stack project. Basically for the creation of our project all of these technologies are used, like for the web page(i.e. Quora For IPEC) a client side JavaScript framework called React.js is used. This particular segment is the front end of the project. Similarly the next segment is the server-side framework running inside web server i.e. Express.js inside Node.js for dynamic data on the page entered by the user in the form of posts. This particular segment is the backend of the project. And for storing data in the form of user profiles, comments, uploads events, etc. The technology used is MongoDB as a database. It takes data from Node.js and stores it.

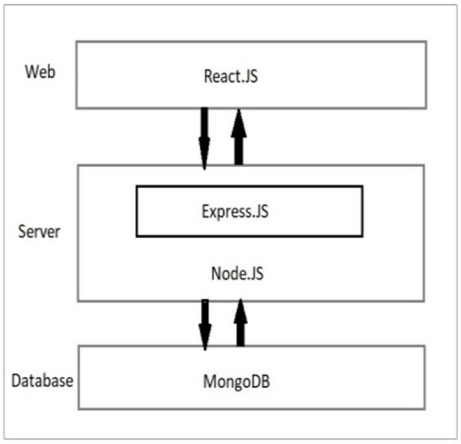


Figure 6.1 MERN Stack Diagram

B. Back End

The backend of the project is managed by “MongoDB” Database which is characterised
as a NoSQL database program. MongoDB is a source-available cross-platform document-oriented database program. It is a document database used to build highly available and scalable internet applications. With its flexible schema approach, it’s popular with development teams using agile methodologies. It supports authentication using passwords, phone numbers, popular federated identity providers like Google, Facebook and Twitter, and more.

C. Front End

The front-end of the project “Quora for IPEC” typically involves usage of languages like ReactJs, HTML & CSS, and Bootstrap for designing the UI Interface of the Website. React is used to create a frontend build pipeline. A responsive web page design on which the user can Sign in, Register, ask and answer questions, join communities, follow individuals, Read Blogs, etc. It consist of a login page followed by the main page after successful authentication consisting of navigation bar, material UI for all icons, buttons, a side bar section, post section and the widgets section.

VII. RESULT

QUORA FOR IPEC is a QnA website which is very helpful in day to day life of an IPEC student, a doubt can arise to anyone at any moment but one can now can get it resolved quickly by posting it on the website. One can also educate others on his/her interest by writing on the page. The type of post can already be selected to be put inside a certain section also one can react on the posts,can reply and follow that individual according to the domain of knowledge they are interested in. The admin gets access to all the posts in the database server and can remove any post if found inappropriate. There are certain sections for static information like data about placements and list of academic toppers. One can also visit the same. There are always room for additions and ideas for improvement. Our approach can be useful for creating a healthy environment and place to learn and grow.

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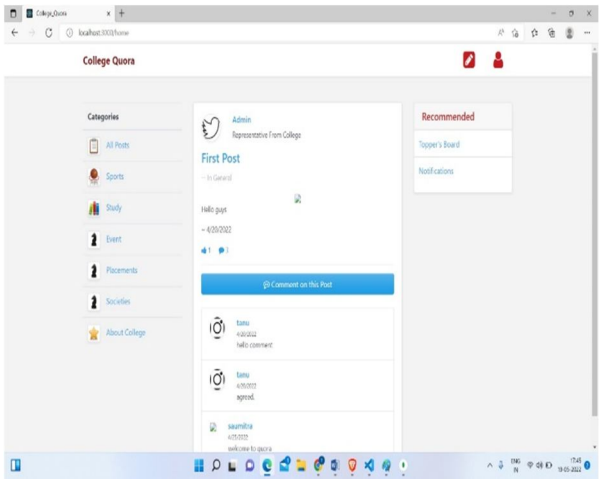


Figure 7.1 Home Page of Website

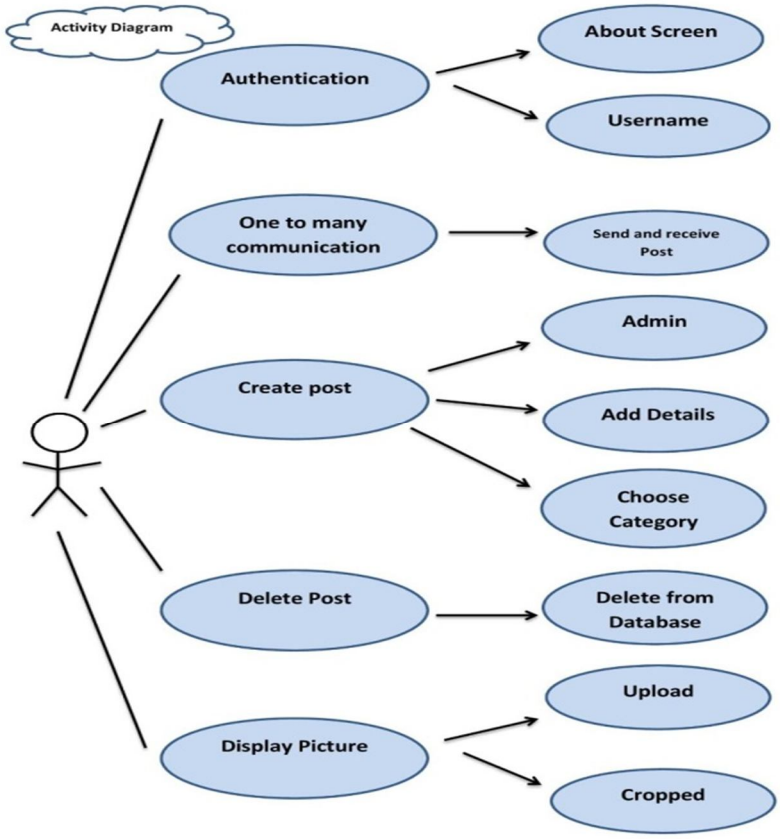


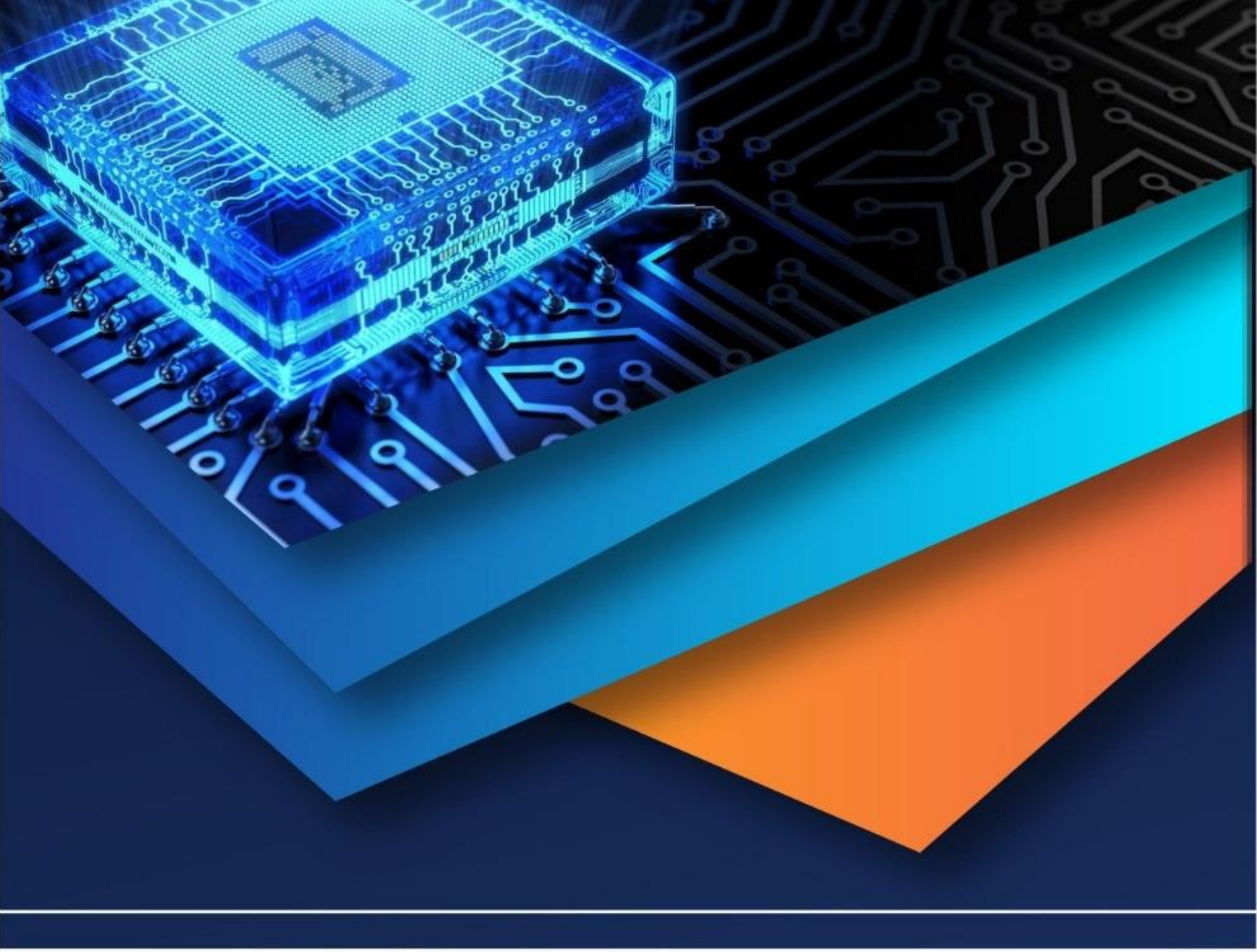
Figure 7.2 Activity Diagram of the Project

VIII. CONCLUSION

QUORA FOR IPEC Website provides an easy way for communication with the people, be it students or teachers or seniors at the college level for being connected to each other in the social and the real world simultaneously. It bridges communication gaps between the communicators due to existence of hierarchy by resolving doubts via communication through posting questions and answers, comments, reactions allowing users to know the current events or news of the surroundings, within an environment of known as well as unknown people. Overall leading to the creation of a healthy environment for the college campus on a QnA website to learn and grow together, and share knowledge about technologies, news' ,events and information from the very recent.

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