1. INTRODUCTION

Introducing a MERN based web application named as ‘Get Guidance’. This Web App is developed to solve the problem of the lack of communication between seniors and juniors. This web app will be a perfect site for interaction of students.

There is no website or platform dedicated to students where they can interact with their seniors or get their doubt resolved. This website serves this purpose. Moreover, if one student asks his question and his query are resolved then many other students, who have the same question, will be answered by this one question.

There is also support of article writing facility where the students who have some knowledge about the domain or they want to guide the juniors, can add their articles in this section. For this purpose, a text editor is provided by the website to them where they can create, delete, and edit their text.

Nowadays, everybody cares about time very much. They don’t want to write the name and password, emails for the registration on website. To make this process smooth, there are various websites today which uses google authentication for sign in. Our website is no exception. It also uses the google authentication APIs for the login and logout purpose.

Adding the question is very much easy in this website. Its rich UI provides very smooth working. Moreover user can upload the picture along with the question by giving the picture link.

This website will be very helpful to the students who are seeking knowledge about the opportunities in college. It fills the communication gap between the seniors and juniors.

2. GET GUIDANCE WEBSITE

Now we will give a small brief about how a user can use this website. User need to perform the following steps to use our website:-

Step 1: Sign In to the website by following the link https://get-guidance.herokuapp.com/

After this following page will appear:

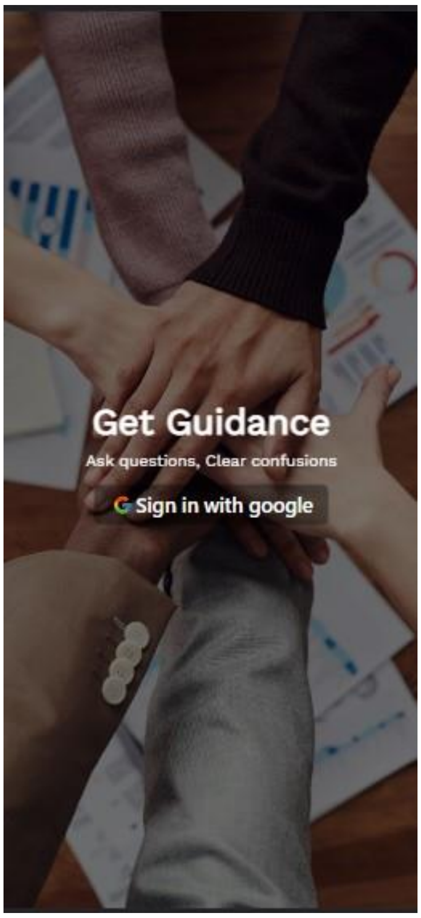
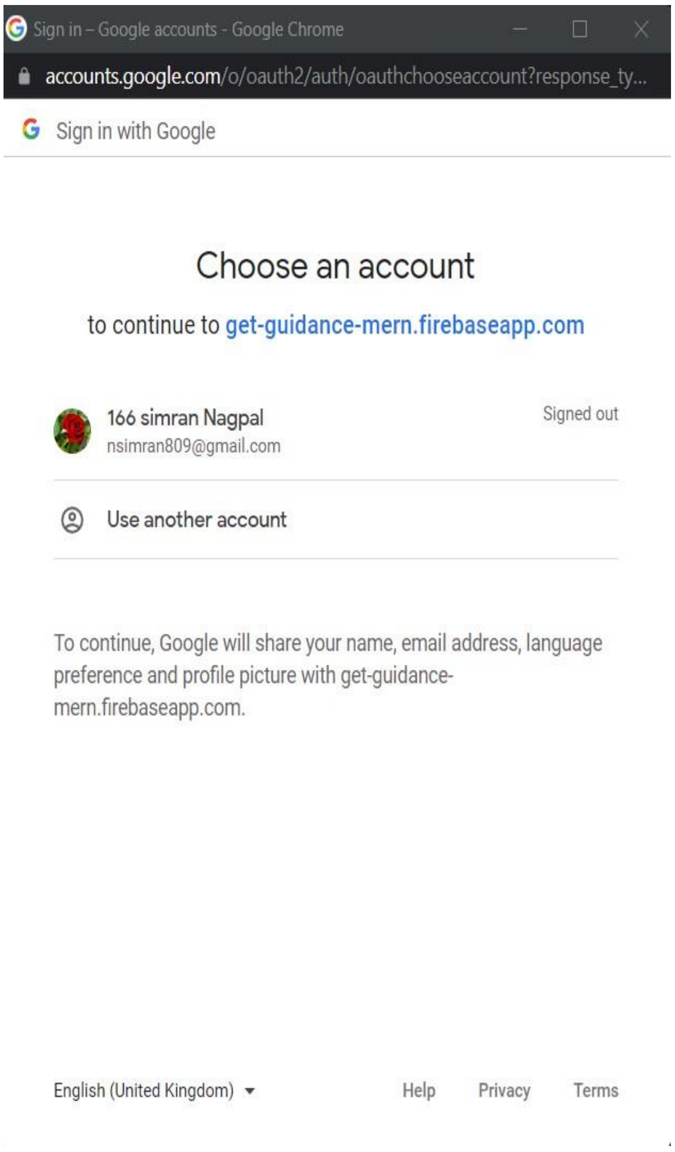


Figure 2.1

We can see the sign in button in the Figure 2.1. User is supposed to click this button in order to get into the website.

Step 2: Click the sign in button. After clicking the sign in button, user will see the pop window asking him to sign in with the google id he wants. It will look like:



Sign in – Google accounts - Google Chrome

accounts.google.com/o/oauth2/auth/oauthchooseaccount?response_ty...

Sign in with Google

Choose an account

to continue to get-guidance-mern.firebaseapp.com

166 simran Nagpal
nsimran809@gmail.com
Signed out

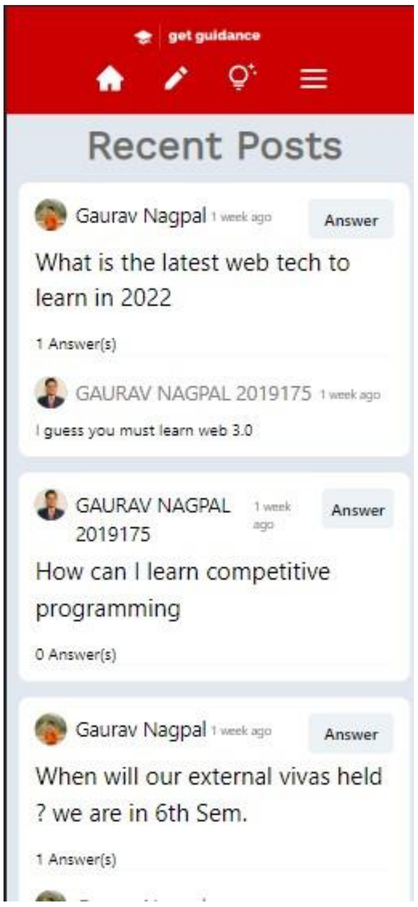
Use another account

To continue, Google will share your name, email address, language preference and profile picture with get-guidance-mern.firebaseapp.com.

English (United Kingdom) Help Privacy Terms

Figure 2.2

Now user has to choose the google id with which he wants to sign in. Once he clicked on the id. He will be directed to the home page of the website. The home page consists of the feed i.e. the latest questions asked by the students. It will look like:



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I guess you must learn web 3.0

GAURAV NAGPAL 2019175 1 week ago Answer

How can I learn competitive programming

0 Answer(s)

Gaurav Nagpal 1 week ago Answer

When will our external vivas held ? we are in 6th Sem.

1 Answer(s)

3. TECHNOLOGIES

The major technologies used in project are:

3.1 Languages

HTML

HTML is an acronym which stands for **Hyper Text Markup Language** which is used for creating web pages and web applications. Let's see what is meant by Hypertext Markup Language, and Web page.

Hyper Text: HyperText simply means "Text within Text." A text has a link within it, is a hypertext. Whenever you click on a link which brings you to a new webpage, you have clicked on a hypertext. HyperText is a way to link two or more web pages (HTML documents) with each other.

Markup language: A markup language is a computer language that is used to apply layout and formatting conventions to a text document. Markup language makes text more interactive and dynamic. It can turn text into images, tables, links, etc.

Web Page: A web page is a document which is commonly written in HTML and translated by a web browser. A web page can be identified by entering an URL. A

Web page can be of the static or dynamic type. **With the help of HTML only, we can create static web pages**.

Hence, HTML is a markup language which is used for creating attractive web pages with the help of styling, and which looks in a nice format on a web browser. An HTML document is made of many HTML tags and each HTML tag contains different content.

CSS

Cascading Style Sheets, fondly referred to as **CSS**, is a simple design language intended to simplify the process of making web pages presentable.

CSS is a MUST for students and working professionals to become a great Software Engineer specially when they are working in Web Development Domain. I will list down some of the key advantages of learning CSS:

- **Create Stunning Web site** - CSS handles the look and feel part of a web page. Using CSS, you can control the color of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, what background images or colors are used, layout designs,variations in display for different devices and screen sizes as well as a variety of other effects.
- **Become a web designer** - If you want to start a carrer as a professional web designer, HTML and CSS designing is a must skill.
- **Control web** - CSS is easy to learn and understand but it provides powerful control over the presentation of an HTML document. Most commonly, CSS is combined with the markup languages HTML or XHTML.
- **Learn other languages** - Once you understands the basic of HTML and CSS then other related technologies like javascript, php, or angular are become easier to understand.

JAVSCRIPT

JavaScript is a lightweight, interpreted **programming** language. It is designed for creating network-centric applications. It is complimentary to and integrated with

Java. **JavaScript** is very easy to implement because it is integrated with HTML. It is open and cross-platform.

Javascript is a MUST for students and working professionals to become a great Software Engineer specially when they are working in Web Development Domain. I will list down some of the key advantages of learning Javascript:

- Javascript is the most popular **programming language** in the world and that makes it a programmer's great choice. Once you learnt Javascript, it helps you developing great front-end as well as back-end softwares using different Javascript based frameworks like jQuery, Node.JS etc.

- Javascript is everywhere, it comes installed on every modern web browser and so to learn Javascript you really do not need any special environment setup. For example Chrome, Mozilla Firefox , Safari and every browser you know as of today, supports Javascript.

- Javascript helps you create really beautiful and crazy fast websites. You can develop your website with a console like look and feel and give your users the best Graphical User Experience.

- JavaScript usage has now extended to mobile app development, desktop app development, and game development. This opens many opportunities for you as Javascript Programmer.

- Due to high demand, there is tons of job growth and high pay for those who know JavaScript. You can navigate over to different job sites to see what having JavaScript skills looks like in the job market.

- Great thing about Javascript is that you will find tons of frameworks and Libraries already developed which can be used directly in your software development to reduce your time to market.

3.2 Tools

VS Code

Visual Studio Code, also commonly referred to as **VS Code**, is a source-code editor made by Microsoft for Windows, Linux and macOS. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git. Users can change the theme, keyboard shortcuts, preferences, and install extensions that add additional functionality.

In the Stack Overflow 2021 Developer Survey, Visual Studio Code was ranked the most popular developer environment tool, with 70% of 82,000 respondents reporting that they use it

POSTMAN

Postman is an API platform for building and using APIs. Postman simplifies each step of the API lifecycle and streamlines collaboration so you can create better APIs—faster.

API repository: Easily store, catalog, and collaborate around all your API artifacts on one central platform. Postman can store and manage API specifications, documentation, workflow recipes, test cases and results, metrics, and everything else related to APIs**.**

Tools: The Postman platform includes a comprehensive set of tools that help accelerate the API lifecycle—from design, testing, documentation, and mocking to the sharing and discoverability of your APIs.

Intelligence: The Postman platform gives you advanced intelligence and insights about all of your API operations by leveraging alerts and security warnings, search, reporting, and more.

Workspaces: Postman workspaces help you organize your API work and collaborate across your organization or across the world. There are three different kinds of Postman workspaces for your different needs: personal workspaces, team workspaces, and public workspaces.

Web Browser:-

Web browser (also referred to as an **Internet browser** or simply a **browser**) is application software for accessing the World Wide Web or a local website. When a user requests a web page from a particular website, the web browser retrieves the necessary content from a web server and then displays the page on the user's device.

A web browser is not the same thing as a search engine, though the two are often confused. A search engine is a website that provides links to other websites. However, to connect to a website's server and display its web pages, a user must have a web browser installed.

3.3 Front End Frameworks

React Js

React (also known as **React.js** or **ReactJS**) is a free and open-source front-end JavaScript library[for building user interfaces based on UI components. It is maintained by Meta (formerly Facebook) and a community of individual developers and companies. React can be used as a base in the development of single-page, mobile, or server-rendered applications with frameworks like Next.js. However, React is only concerned with state management and rendering that state to the DOM, so creating React applications usually requires the use of additional libraries for routing, as well as certain client-side functionality.[

Basic usage

The following is a rudimentary example of React usage in HTML with JSX and JavaScript.

```
import React from "react";

const Greeting = () => {
  return (
    <div className="hello_world">
      <h1> Hello, world! </h1>
    </div>
  );
};

export default Greeting;
```

The `Greeting` function is a React component that displays the famous introductory "Hello, world".

When displayed in a web browser, the result will be a rendering of:

```
<div class="hello_world">
  <h1>Hello, world!</h1>
</div>
```

ReactJS tutorial provides basic and advanced concepts of ReactJS. Currently, ReactJS is one of the most popular JavaScript front-end libraries which has a strong foundation and a large community.

ReactJS is a **declarative**, **efficient**, and flexible **JavaScript library** for building reusable UI components. It is an open-source, component-based front end library which is responsible only for the view layer of the application. It was initially developed and maintained by Facebook and later used in its products like WhatsApp & Instagram.

Our ReactJS tutorial includes all the topics which help to learn ReactJS. These are ReactJS Introduction, ReactJS Features, ReactJS Installation, Pros and Cons of ReactJS, ReactJS JSX, ReactJS Components, ReactJS State, ReactJS Props, ReactJS Forms, ReactJS Events, ReactJS Animation and many more.

Usage

The main objective of ReactJS is to develop User Interfaces (UI) that improves the speed of the apps. It uses virtual DOM (JavaScript object), which improves the performance of the app. The JavaScript virtual DOM is faster than the regular DOM. We can use ReactJS on the client and server-side as well as with other frameworks. It uses component and data patterns that improve readability and helps to maintain larger apps.

Chakra Ui

Chakra UI is a component-based library. It's made up of basic building blocks that can help you build the front-end of your web application.
It is customizable and reusable, and most importantly it supports ReactJs, along with some other libraries too.
Chakra UI is extremely simple to use, especially when you are familiar with how to use ReactJs components.

3.4 Backend

Node Js

Node.js is an open-source, cross-platform, back-end JavaScript runtime environment that runs on the V8 engine and executes JavaScript code outside a web browser. Node.js lets developers use JavaScript to write command line tools and for server-side scripting—running scripts server-side to produce dynamic web page content before the page is sent to the user's web browser. Consequently, Node.js represents a "JavaScript everywhere" paradigm, unifying web-application development around a single programming language, rather than different languages for server-side and client-side scripts.

Node.js has an event-driven architecture capable of asynchronous I/O. These design choices aim to optimize throughput and scalability in web applications with many input/output operations, as well as for real-time Web applications (e.g., real-time communication programs and browser games).

Node.js brings event-driven programming to web servers, enabling development of fast web Script Developers can create scalable servers without using threading, by using a simplified model of event-driven programming that uses callbacks to signal the completion of a task. Node.js connects the ease of a scripting language (JavaScript) with the power of Unix network programming

Node.js was built on top of Google's V8 JavaScript engine since it was open-sourced under the BSD license. It is proficient with internet fundamentals such as HTTP, DNS, and TCP.] JavaScript was also a well-known language, making Node.js accessible to the web development community

Express Js

Express is a minimal and flexible Node.js web application framework that provides a robust set of features to develop web and mobile applications. It facilitates the rapid development of Node based Web applications. Following are some of the core features of Express framework −

- Allows to set up middlewares to respond to HTTP Requests.
- Defines a routing table which is used to perform different actions based on HTTP Method and URL.
- Allows to dynamically render HTML Pages based on passing arguments to templates.

Installing Express

Firstly, install the Express framework globally using NPM so that it can be used to create a web application using node terminal.

```
$ npm install express --save
```

The above command saves the installation locally in the **node_modules** directory and creates a directory express inside node_modules. You should install the following important modules along with express −

- **body-parser** − This is a node.js middleware for handling JSON, Raw, Text and URL encoded form data.
- **cookie-parser** − Parse Cookie header and populate req.cookies with an object keyed by the cookie names.
- **multer** − This is a node.js middleware for handling multipart/form-data.

```
$ npm install body-parser --save
$ npm install cookie-parser --save
$ npm install multer --save
```

Hello world Example

Following is a very basic Express app which starts a server and listens on port 8081 for connection. This app responds with **Hello World!** for requests to the homepage. For every other path, it will respond with a **404 Not Found.**

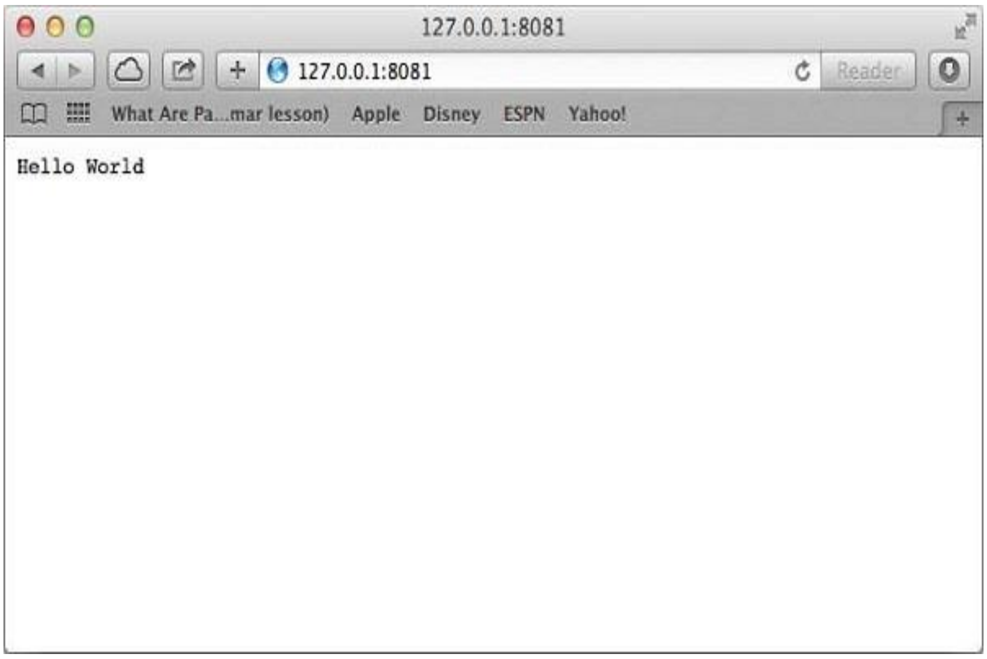
```
var express = require('express');
var app = express();

app.get('/', function (req, res) {
  res.send('Hello World');
})

var server = app.listen(8081, function () {
  var host = server.address().address
  var port = server.address().port

  console.log("Example app listening at http://%s:%s", host, port)
})
```

Save the above code in a file named server.js and run it with the following command.

```
$ node server.js
```

You will see the following output −

```
Example app listening at http://0.0.0.0:8081
```



```
Hello World
```

Database

MongoDB

MongoDB is an open-source document database and leading NoSQL database.

MongoDB is written in C++

MongoDB is a cross-platform, document oriented database that provides, high performance, high availability, and easy scalability. MongoDB works on concept of collection and document.

Database

Database is a physical container for collections. Each database gets its own set of files on the file system. A single MongoDB server typically has multiple databases.

Collection

Collection is a group of MongoDB documents. It is the equivalent of an RDBMS table. A collection exists within a single database. Collections do not enforce a schema. Documents within a collection can have different fields. Typically, all documents in a collection are of similar or related purpose.

Document

RDBMS	MongoDB
Database	Database
Table	Collection
Tuple/Row	Document
column	Field
Table Join	Embedded Documents
Primary Key	Primary Key (Default key _id provided by MongoDB itself)

Database Server and Client	
mysqld/Oracle	mongod
mysql/sqlplus	mongo

A document is a set of key-value pairs. Documents have dynamic schema. Dynamic schema means that documents in the same collection do not need to have the same set of fields or structure, and common fields in a collection's documents may hold different types of data.

The following table shows the relationship of RDBMS terminology with MongoDB.

Sample Document

Following example shows the document structure of a blog site, which is simply a comma separated key value pair.

```
{
  _id: ObjectId(7df78ad8902c)
  title: 'MongoDB Overview',
  description: 'MongoDB is no sql database',
  by: 'tutorials point',
  url: 'http://www.tutorialspoint.com',
  tags: ['mongodb', 'database', 'NoSQL'],
  likes: 100,
  comments: [
    {
      user:'user1',
      message: 'My first comment',
      dateCreated: new Date(2011,1,20,2,15),
      like: 0
    },
    {
      user:'user2',
      message: 'My second comments',
      dateCreated: new Date(2011,1,25,7,45),
        like: 5
      }
   ]
}
```

_id is a 12 bytes hexadecimal number which assures the uniqueness of every document. You can provide _id while inserting the document. If you don't provide then MongoDB provides a unique id for every document. These 12 bytes first 4 bytes for the current timestamp, next 3 bytes for machine id, next 2 bytes for process id of MongoDB server and remaining 3 bytes are simple incremental VALUE.

Mongoose

Mongoose is a **MongoDB** object modeling tool designed to work in an asynchronous environment. Mongoose supports both promises and callbacks. Mongoose provides a straight-forward, schema-based solution to model your application data. It includes built-in type casting, validation, query building, business logic hooks and more, out of the box.

3.5 Hosting – Heroku

Heroku is a cloud service platform whose popularity has grown in recent years. Heroku is so easy to use that it's a top choice for many development projects.
With a special focus on supporting customer-focused apps, it enables simple application development and deployment. Since the Heroku platform manages hardware and servers, businesses that use Heroku are able to focus on perfecting their apps. And not the infrastructure that supports them.
More time goes towards ensuring that users receive the highest quality experiences as possible.

4. **ARCHITECTURE:** Architecture of our website is very simple and it can be easily understood with the help of the following diagram:

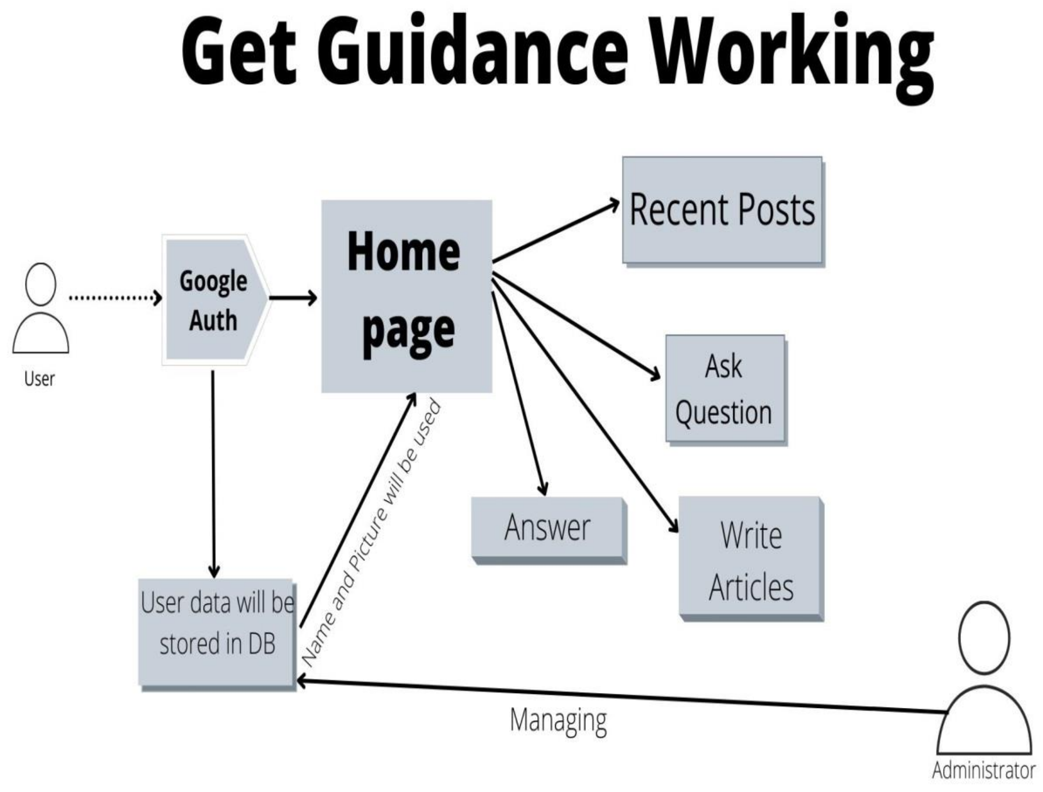


Figure 4.1

- As you can see in the above diagram if as user wants to access our website then he/she will be authenticated with the google APIs.
- After log in, user will be directed to home page.
- User can navigate to other section through the navigation bar given at the top
- Database will be updated as soon as the user performs activity.
- Our Hosting platform ("Heroku") will automatically communicate with the mongoDB cloud database other APIs.

5. IMPLEMENTATIONS

5.1 Google Authentication

For the user sign we have used google authentication from firebase. To apply this, we have followed the given steps:

Step 1 - Enable Google Authentication

Open Firebase dashboard and click **Auth** on the left side menu. To open the list of available methods, you need to click on **SIGN_IN_METHODS** in the tab menu.

Now you can choose **Google** from the list, enable it and save it.

Step 2 - Create Buttons

Inside our **index.html**, we will add two buttons.

index.html

```
<button onclick = "googleSignin()">Google Signin</button>
<button onclick = "googleSignout()">Google Signout</button>
```

Step 3 - Signin and Signout

In this step, we will create Signin and Signout functions. We will use **signInWithPopup()** and **signOut()** methods.

Example

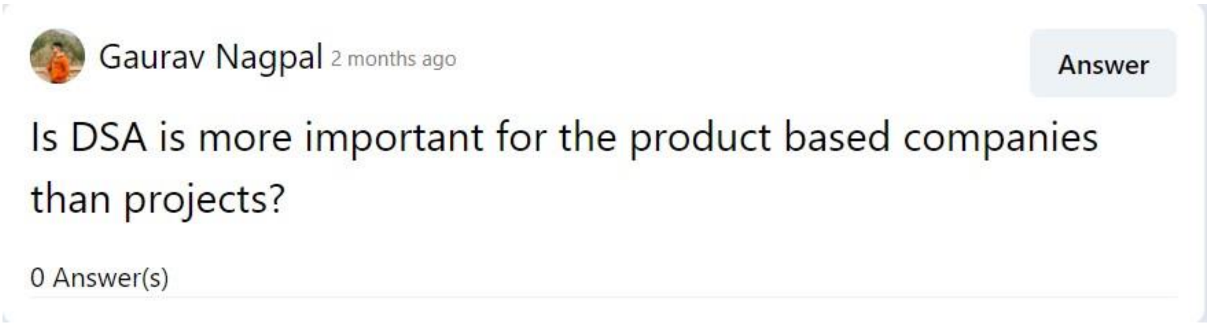
Let us consider the following example.

```
var provider = new firebase.auth.GoogleAuthProvider();

function googleSignin() {
  firebase.auth()

  .signInWithPopup(provider).then(function(result) {
    var token = result.credential.accessToken;
    var user = result.user;

    console.log(token)
    console.log(user)
  }).catch(function(error) {
    var errorCode = error.code;
    var errorMessage = error.message;

    console.log(error.code)
    console.log(error.message)
  });
}

function googleSignout() {
  firebase.auth().signOut()

  .then(function() {
    console.log('Signout Succesfull')
  }, function(error) {
    console.log('Signout Failed')
  });
}
```

After we refresh the page, we can click on the **Google Signin** button to trigger the Google popup. If signing in is successful, the developer console will log in our user.

We can also click on the **Google Sign out** button to logout from the app. The console will confirm that the logout was successful.

5.2 Home Page: For implementation of the home page we have developed a single post component:


Gaurav Nagpal 2 months ago

Answer

Is DSA is more important for the product based companies than projects?

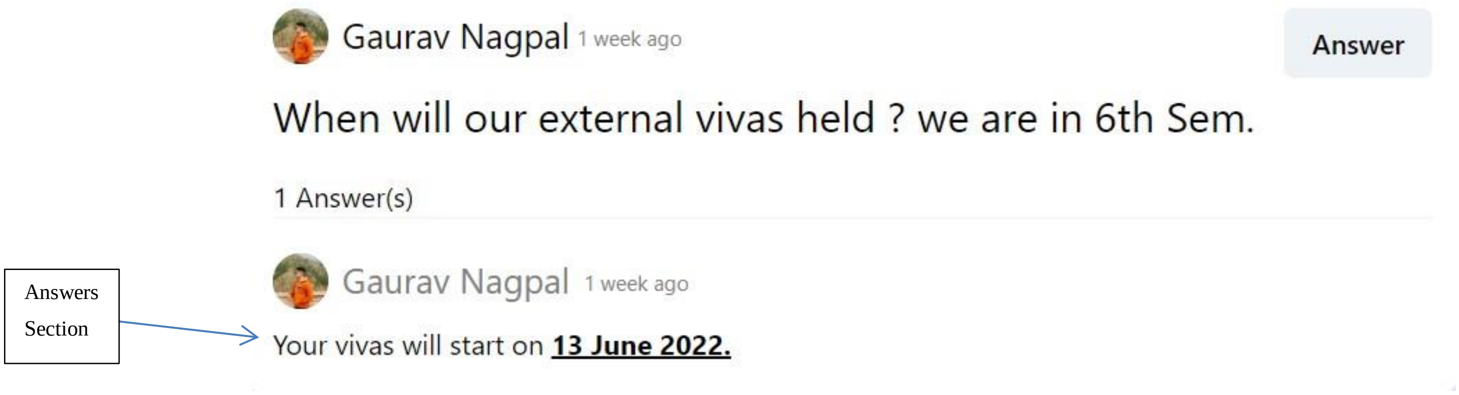
0 Answer(s)

Figure 5.2.1

To develop this post component, we embedded picture of login user, his name and the time stamp at which he asked the question.

Also we have included the Answer button here and description of that will be given in further section.

In the last of the post there is section in which the answers added by the other people will show up.


Gaurav Nagpal 1 week ago

Answer

When will our external vivas held ? we are in 6th Sem.

1 Answer(s)

Gaurav Nagpal 1 week ago

Your vivas will start on **13 June 2022.**

Figure 5.2.2

5.3 Question and Answer Model

Question and Answer section is implemented by the chakra ui model

Question: It includes the two fields – one for the question and one for the link of the image which you want to attach with the question. This field is not compulsory.

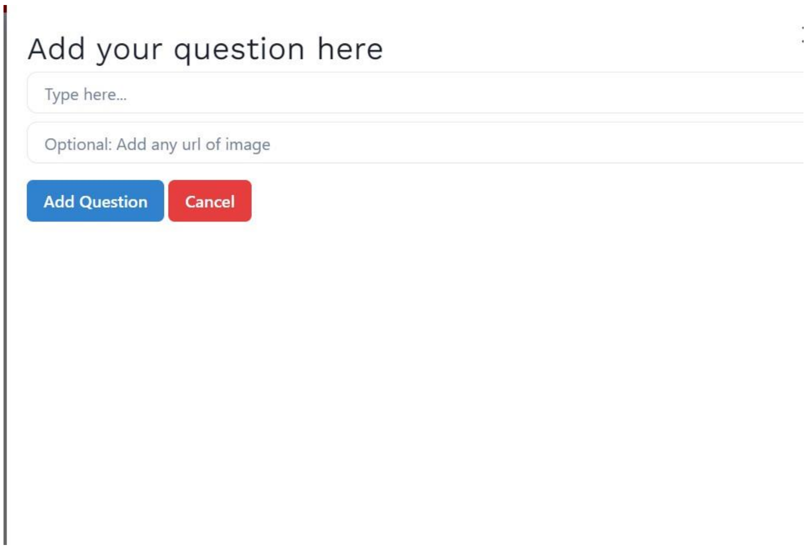


Figure 5.3.1

Answer: For the answer section we have included the react quill text editor. User can edit his text in the way he wants.

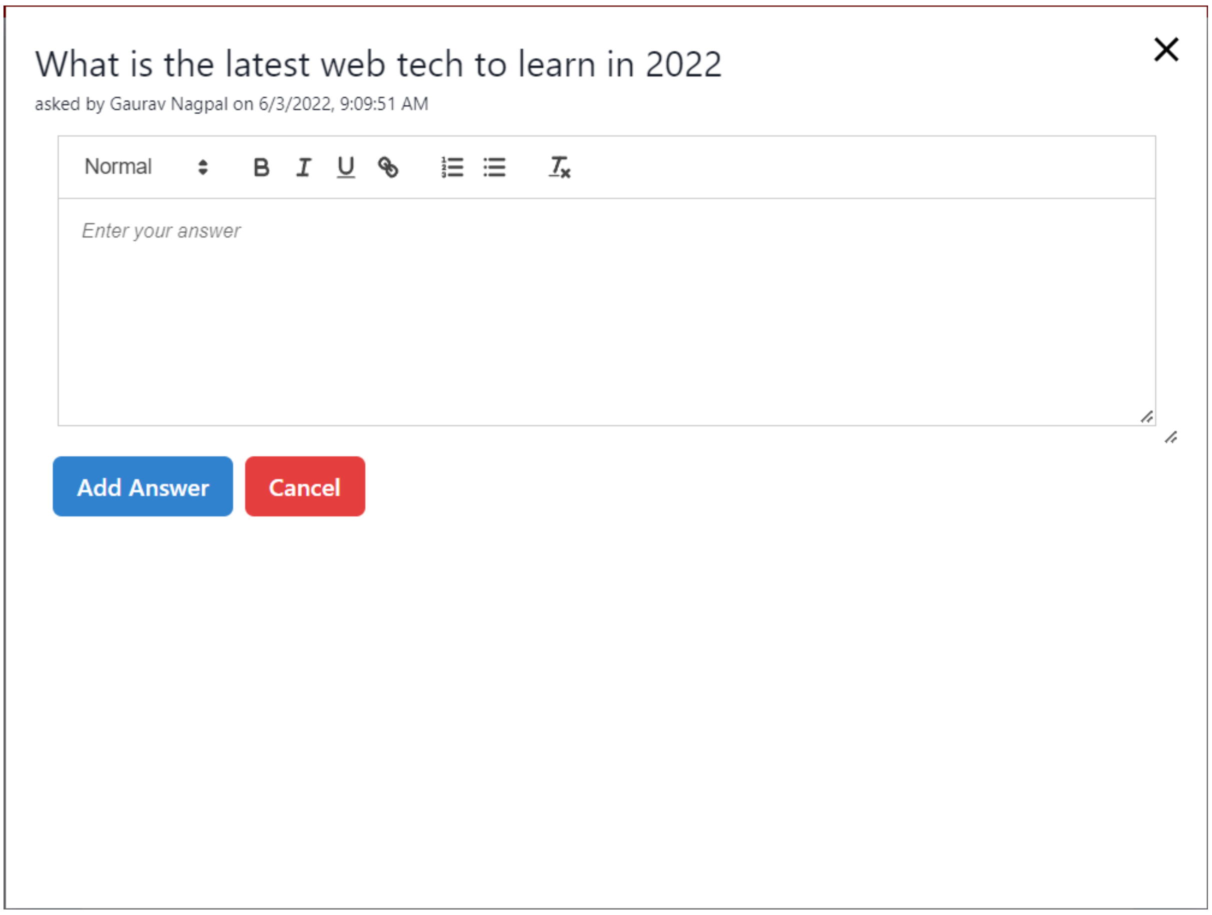
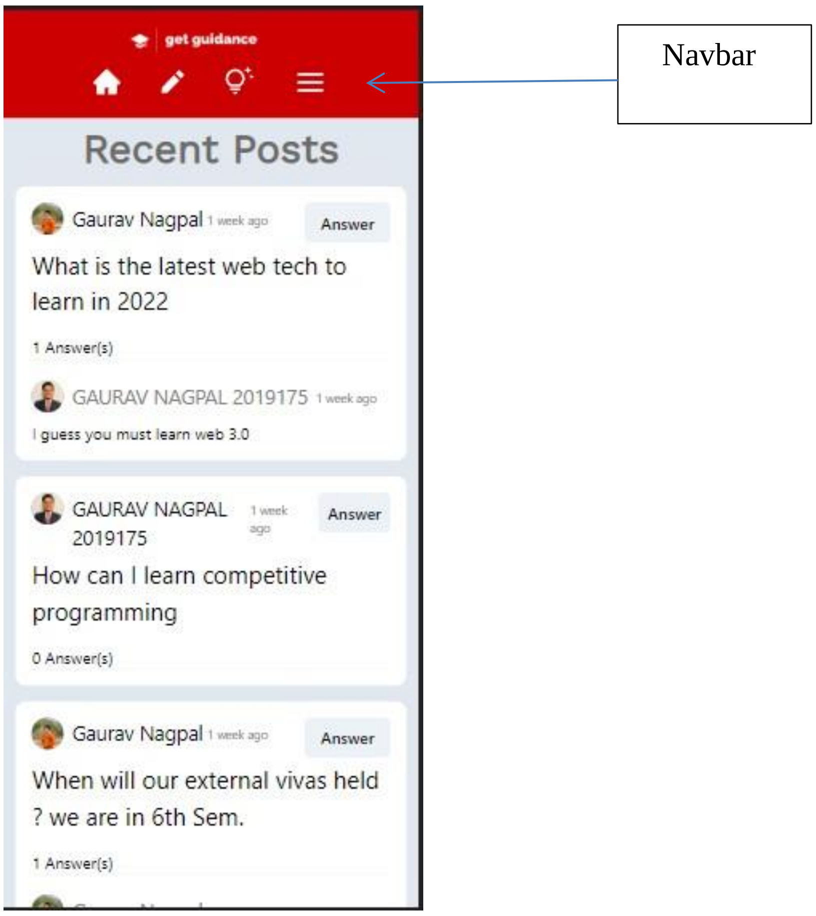

What is the latest web tech to learn in 2022
asked by Gaurav Nagpal on 6/3/2022, 9:09:51 AM
Normal
Enter your answer
Add Answer
Cancel

Figure 5.3.2

5.4 Recent Feeds Page: In this page all the recent question which is asked will be shown.



get guidance

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1 Answer(s)

GAURAV NAGPAL 2019175 1 week ago

I guess you must learn web 3.0

GAURAV NAGPAL 2019175 1 week ago Answer

How can I learn competitive programming

0 Answer(s)

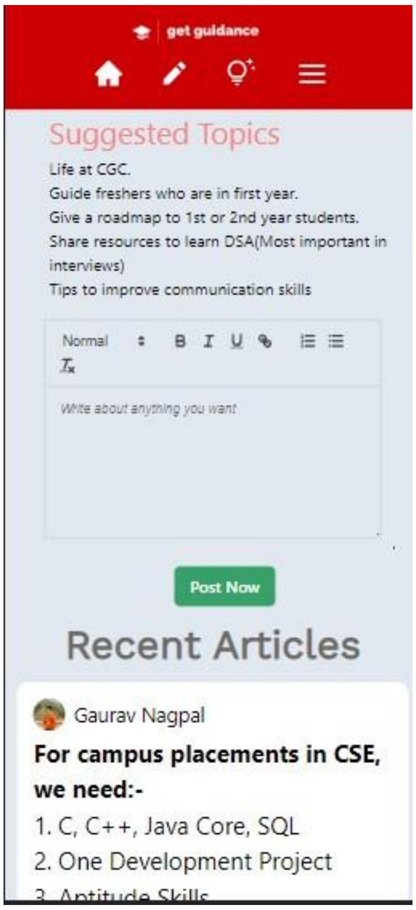
Gaurav Nagpal 1 week ago Answer

When will our external vivas held ? we are in 6th Sem.

1 Answer(s)

Figure 5.4.1

5.5 Article Writing Page: The implementation of this page include text editor provided by the react to handle the text entered by the user:



Suggested Topics

Life at CGC.
Guide freshers who are in first year.
Give a roadmap to 1st or 2nd year students.
Share resources to learn DSA(Most important in interviews)
Tips to improve communication skills

Write about anything you want

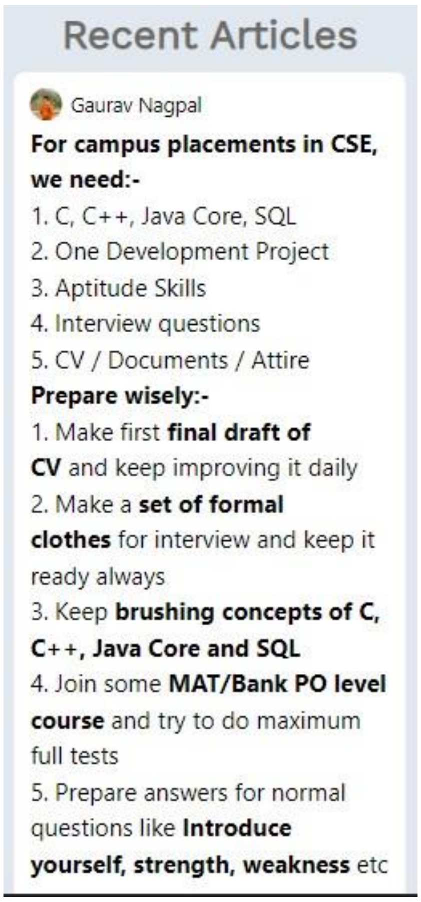
Recent Articles

Gaurav Nagpal

For campus placements in CSE, we need:-

1. C, C++, Java Core, SQL
2. One Development Project
3. Aptitude Skills

Figure 5.5.1



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For campus placements in CSE, we need:-

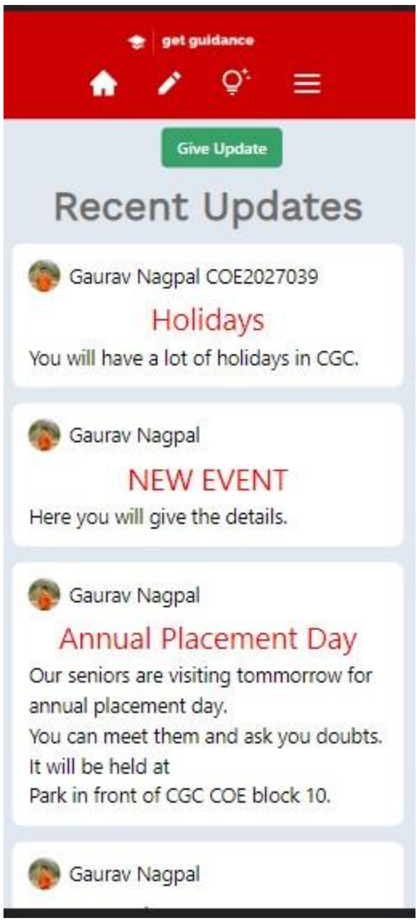
1. C, C++, Java Core, SQL
2. One Development Project
3. Aptitude Skills
4. Interview questions
5. CV / Documents / Attire

Prepare wisely:-

1. Make first **final draft of CV** and keep improving it daily
2. Make a **set of formal clothes** for interview and keep it ready always
3. Keep **brushing concepts of C, C++, Java Core and SQL**
4. Join some **MAT/Bank PO level course** and try to do maximum full tests
5. Prepare answers for normal questions like **Introduce yourself, strength, weakness** etc

Figure 5.5.2

5.6 Updates Page: This page includes all the updates of the college and it will be given by the students itself.



Recent Updates

Gaurav Nagpal COE2027039

Holidays

You will have a lot of holidays in CGC.

Gaurav Nagpal

NEW EVENT

Here you will give the details.

Gaurav Nagpal

Annual Placement Day

Our seniors are visiting tommorrow for annual placement day.
You can meet them and ask you doubts.
It will be held at
Park in front of CGC COE block 10.

Gaurav Nagpal

Figure 5.6.1

After clicking the give update button this dialog will appear:

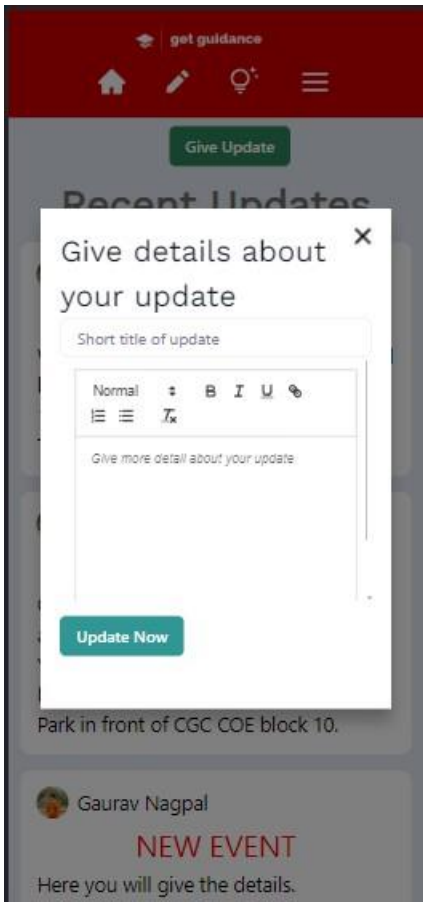

get guidance
Give Update
Recent Updates
Give details about your update
Short title of update
Normal
Give more detail about your update
Update Now
Park in front of CGC COE block 10.
Gaurav Nagpal
NEW EVENT
Here you will give the details.

Figure 5.6.2

This will contain two fields one is the title of the update and the other is description/detail of the update.

6. DATABASE

For storing the data in the MongoDB cloud database, we need clusters, and in clusters we need collections to store the particular data about one thing.

MongoDB stores data records as documents (specifically BSON documents) which are gathered together in collections. A database stores one or more collections of documents.

Databases

In MongoDB, databases hold one or more collections of documents. To select a database to use, in `mongosh`, issue the `use <db>` statement, as in the following example:

```
use myDB
```

Create a Database

If a database does not exist, MongoDB creates the database when you first store data for that database. As such, you can switch to a non-existent database and perform the

```
use myNewDB
db.myNewCollection1.insertOne( { x: 1 } )
```

following operation in `mongosh`:

The `insertOne()` operation creates both the database `myNewDB` and the collection `myNewCollection1` if they do not already exist. Be sure that both the database and collection names follow MongoDB Naming Restrictions.

Collections

MongoDB stores documents in collections. Collections are analogous to tables in relational databases.

Create a Collection

If a collection does not exist, MongoDB creates the collection when you first store

```
db.myNewCollection2.insertOne( { x: 1 } )
db.myNewCollection3.createIndex( { y: 1 } )
```

data for that collection.

Both the insertOne() and the createIndex() operations create their respective collection if they do not already exist. Be sure that the collection name follows MongoDB Naming Restrictions.

Project Selection:

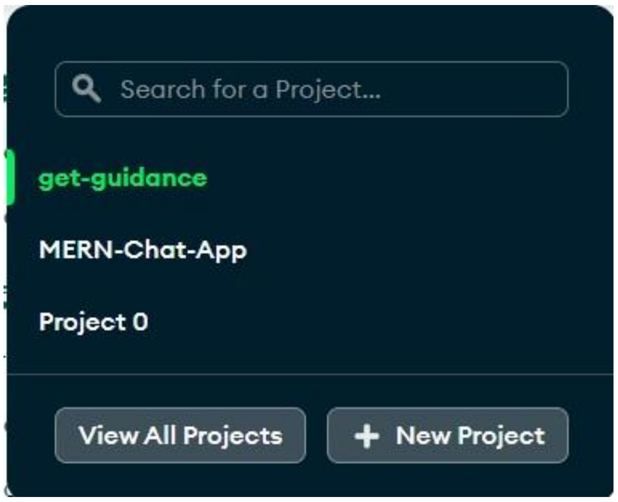
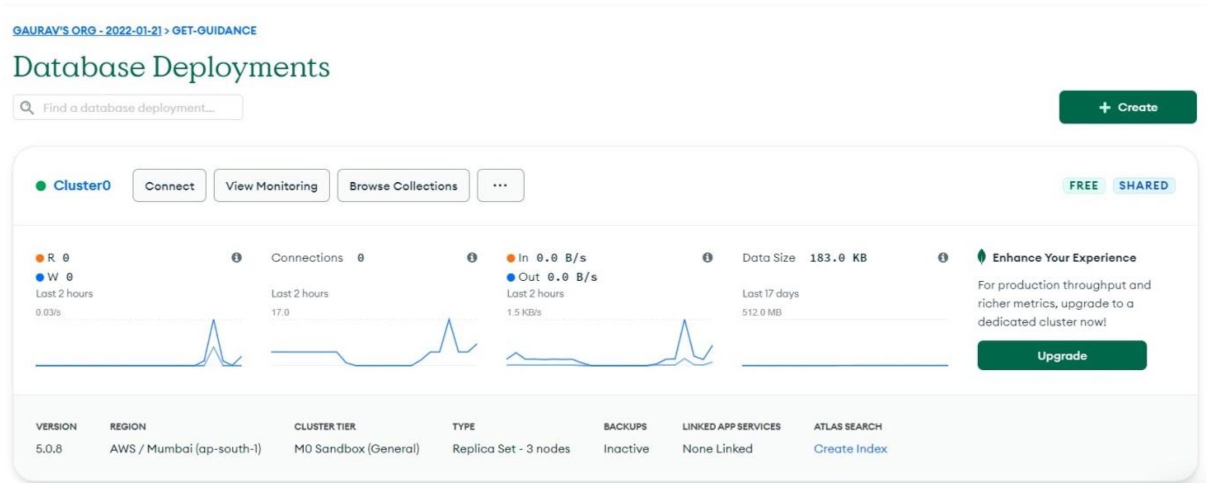


Figure 6.1

Database Deployments


GAURAV'S ORG - 2022-01-21 > GET-GUIDANCE
Database Deployments
Find a database deployment...
+ Create
Cluster0
Connect
View Monitoring
Browse Collections
FREE
SHARED
Enhance Your Experience
For production throughput and richer metrics, upgrade to a dedicated cluster now!
Upgrade

R 0
W 0
Last 2 hours
0.03/s

Connections 0
Last 2 hours
17.0

In 0.0 B/s
Out 0.0 B/s
Last 2 hours
1.5 KB/s

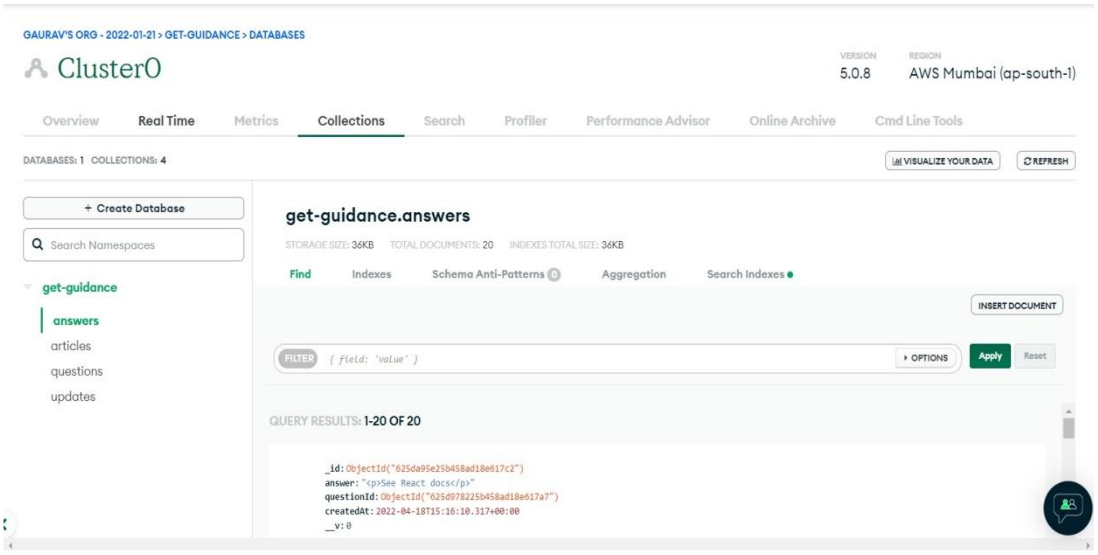
Data Size 183.0 KB
Last 17 days
512.0 MB

VERSION	REGION	CLUSTER TIER	TYPE	BACKUPS	LINKED APP SERVICES	ATLAS SEARCH
5.0.8	AWS / Mumbai (ap-south-1)	M0 Sandbox (General)	Replica Set - 3 nodes	Inactive	None Linked	Create Index

Figure 6.2

Collections

We have various collections for storing our data for example we have made answers, questions, articles and updates collections for our requirement.



VERSION 5.0.8 REGION AWS Mumbai (ap-south-1)

DATABASES: 1 COLLECTIONS: 4

get-guidance.answers

STORAGE SIZE: 36KB TOTAL DOCUMENTS: 20 INDEXES TOTAL SIZE: 36KB

QUERY RESULTS: 1-20 OF 20

```
_id: ObjectId("625da95e25b458ad18e617c2")
answer: "<p>See React docs</p>"
questionId: ObjectId("625d978225b458ad18e617a7")
createdAt: 2022-04-18T15:16:10.317+00:00
__v: 0
```

Figure 6.3

7. TESTING

Testing is the process of executing a program to find errors. To make our software perform well it should be error-free. If testing is done successfully it will remove all the errors from the software.

Principles of Testing:-

(i) All the tests should meet the customer requirements
(ii) To make our software testing should be performed by a third party
(iii) Exhaustive testing is not possible. As we need the optimal amount of testing based on the risk assessment of the application.
(iv) All the tests to be conducted should be planned before implementing it
(v) It follows the Pareto rule(80/20 rule) which states that 80% of errors come from 20% of program components.
(vi) Start testing with small parts and extend it to large parts.

Types of Testing:-

1. Unit Testing

It focuses on the smallest unit of software design. In this, we test an individual unit or group of interrelated units. It is often done by the programmer by using sample input and observing its corresponding outputs.
Example:

a) In a program we are checking if the loop, method, or

function is working fine

b) Misunderstood or incorrect, arithmetic precedence.

c) Incorrect initialization

2. Integration Testing

The objective is to take unit-tested components and build a program structure that has been dictated by design. Integration testing is testing in which a group of components is combined to produce output.

Integration testing is of four types: (i) Top-down (ii) Bottom-up (iii) Sandwich (iv) Big-Bang
Example

(a) Black Box testing:- It is used for validation.

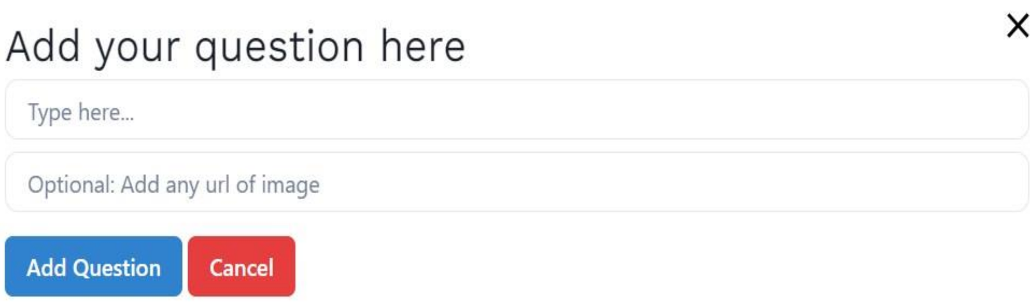
In this, we ignore internal working mechanisms and

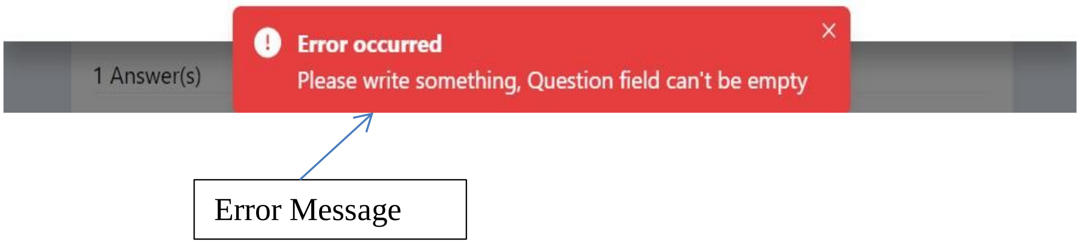
focus on **what is the output?**.

(b) White box testing:- It is used for verification.
In this, we focus on internal mechanisms i.e.
how the output is achieved?

TESTING IN OUR PROJECT

1. **If the questions field is empty:** User may upload the image without adding the question. If this happens then only image will be uploaded in the feed. To handle this situation we don't allow the user to upload the empty question and will give him an error message:

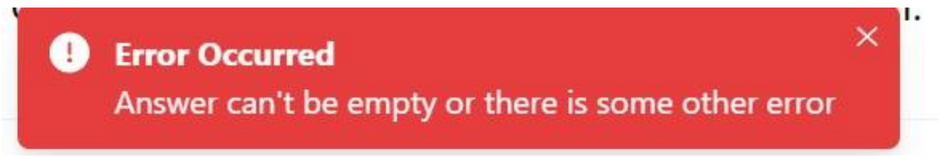




Error occurred
Please write something, Question field can't be empty

Figure 7.1

2. **If the answer field is empty:** User may add the empty answer To handle this situation we don't allow the user to upload the empty answer and will give him an error message:



Error Occurred
Answer can't be empty or there is some other error

Figure 7.2

3. **If the Post is empty:** User may add the empty post. To handle this situation we don't allow the user to upload the empty post and will give him an error message:

8. CONCLUSION

Everyone needs some type of guidance in their life to achieve something. It is same with the college students. When a student enters in the college, he/she needs proper guidance to achieve the goal they want. For this need, we have developed a website ‘Get Guidance’. Through this website students can get proper guidance about their career. More importantly, this guidance will be provided by the community itself.

This website aims to help the students who are just entered the college or are in first, second year. They can ask their doubts, queries and all other types of questions. People signed in on this website will get that question on their feed. One can answer that question easily. Moreover there is functionality of posting about updates of college. It also has a facility of article writing where seniors can write about any topic they want. It also includes easy authentication as it is achieved by Google APIs. It fills the communication gap between seniors and juniors.

References:

https://www.quora.com/
https://nodejs.org/en/
https://reactjs.org/
https://stackoverflow.com/
https://www.mongodb.com/
https://www.npmjs.com/
https://dashboard.heroku.com/apps
https://www.postman.com/
https://reactrouter.com/