

Platform to give and seek support during life challenging moments

Submitted in partial fulfillment of the requirements for the award of
Bachelor of Engineering degree in Computer Science and Engineering

by

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING SCHOOL OF COMPUTING

**SATHYABAMA INSTITUTE OF SCIENCE AND
TECHNOLOGY
(DEEMED TO BE UNIVERSITY)**

Accredited with Grade "A" by NAAC

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MARCH - 2022



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BONAFIDE CERTIFICATE

This is to certify that this Project Report is the bonafide work of **Venkateshwar. S (38110640), Pragadesh. K (38110415)** who carried out the project entitled **"Platform to give and seek support during life challenging moments"** under my supervision from November 2021 to March 2022

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DECLARATION

We **Venkateshwar. S** and **Pragadesh. K** hereby declare that the Project Report entitled **Platform to give and seek support during life challenging moments** done by us under the guidance of Dr./Prof./Mr./Ms. **Dr. A. Sivasangari ME. Ph.D.** (Internal) is submitted in partial fulfillment of the requirements for the award of Bachelor of Engineering degree in Computer Science and Engineering.

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I would like to express my sincere and deep sense of gratitude to my Project Guide Dr./Mr./Ms for his valuable guidance, suggestions and constant encouragement paved way for the successful completion of my project work.

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ABSTRACT

We've had some tough times where we desperately need help and didn't know where to seek or whom to ask. In this modern era, there are millions of people who voluntarily like to give hands to support others. Thankfully, this digital era has made that possible. With the boom of social media, giving and seeking support during life-challenging moments has become quite easy. Also, we see some people misusing this and can see plenty of cyber thefts and fraudulent activities. Many helping hands have been reduced due to many unauthenticated WhatsApp & social media message forwards. Sometimes, this also leads to a lack of support for the people who genuinely need help. This is an easy-to-use online tool to give and seek support during life-challenging moments. It is an interactive web application between the recipient who seeks support and the helper who gives support. The recipient can post the requirements and details will be posted only after thorough verification. The helper can give support and if he/she finds that particular post/story needs immediate attention, they can vote for it for a better reach. The recipient will be able to update the status of the story so that fellow users can keep track of this. There are a lot of features like that on this application that is user-friendly. We've used MEAN stack technology for developing this application.

TABLE OF CONTENTS

CHAPTER No.	TITLE	PAGE No
	ABSTRACT	i
	LIST OF FIGURES	iii
1	INTRODUCTION	1
	1.1 Outline of the Project	1
	1.2 Purpose of The Project	2
	1.3 Existing system	2
	1.4 Proposed System	2
2	LITERATURE SURVEY	4
3	METHODOLOGY	5
	3.1 General Overview	5
	3.2 Application Design	7
	3.3 Creation of Database and Collections	7
	3.4 Building REST API's	9
	3.5 Working on Client Side of the Application	9
	3.6 For Responsive View	13
	3.7 API Methods	13
4	RESULTS AND DISCUSSION	15
5	CONCLUSIONS	17

APPENDIX	18
A.SCREENSHOTS	18
B. PUBLICATION AND PLAGIARISM REPORT	23
REFERENCE	26

LIST OF FIGURES

FIGURE NO	FIGURE NAME	PAGE NO
1	Architecture Diagram	6
2	Application flow diagram	7
3	Query Analysis 1	15
4	Query Analysis 2	16

CHAPTER 1

INTRODUCTION

1.1 OUTLINE OF THE PROJECT

In this digital world, crowdfunding is being practiced via the internet. We already have plenty of crowdfunding platforms that help to raise funds for the needed cause. These platforms offer financial help for any organization, individuals, etc. In this proposed system, we are building an interactive web application where recipients can post the requirements and the story will be posted only after a complete authorization. This helps to avoid fraudulent activities. The helper can give support based on the requirements. Many crowdfunding platforms only satisfy financial needs but this application can be used for any purposes like food for an organization, blood donation, etc. This platform conglomerates all the needs and help in one place. MEAN STACK web development is the main technology used for developing web application. MEAN stack is a user-friendly full stack javascript technology for building modern dynamic websites and applications. MEAN stack is comprised of 4 different technologies namely Express.js, Angular, MongoDB, and Node.js. This Technology allows creating a simple open-source solution, building strong and maintainable solutions, and also helps in developing an application on a rapid basis. MEAN stack uses javascript in all the front-end and back-end works which is 100% free. We've used socket IO technology for real-time interactions between the recipient and the helper. In recent times, the demand for using cloud platforms are increasing rapidly. Many companies and organizations have started using cloud platforms to store and access data information. We've used MongoDB cloud database for the application and also used AWS S3 storage services for storing the user's data such as images, videos, documents, etc

1.2 PURPOSE OF THE PROJECT

Helping and supporting others when they are in need of support is the first step in making this world a better place. We've had some tough times where we desperately need help and didn't know where to seek or whom to ask. In this modern era, there are millions of people who voluntarily like to give hands to support others. Those days are gone where we have to join non-profit organizations and physically present on the weekend to help others in any kind of support. Nowadays, we are just one click away to support others sitting from our home or anywhere in this world. Thankfully, this digital era has made that possible. Crowdfunding is the go-to option for anyone with a cause who needs support financially. Crowdfunding is the way of raising funds for any cause by collecting less amount of money from more people.

1.3 EXISTING SYSTEM

We already have crowdfunding platforms that help for raising funds for the needed cause. These platforms offer financial help for patients in India. Anyone can share the requirements posted by a recipient on different social media for a better reach. Real-time funds raised are transparently visible to everyone. Helpers can send their wishes and support to the recipient through the comment section of the page.

1.4 PROPOSED SYSTEM

Our proposed system is built upon the MEAN stack and brings it to the real world as an application. It will be a platform for everyone to help each other. We already have client-side crowd funding-supported systems for raising funds for the needed cause. Those platforms offer financial help for patients in India. This proposed system is expanded its boundary to also support various aspects like blood donation, food for organizations, guidance for pursuing dreams, etc. This proposed system will prevent anonymous and fraudulent users by having a Signup/login as a first-step process to verify the new user before making them a part of the community and to ensure that users are authenticated before login. The post is a part of our system that describes the recipient's needs. To avoid false actions and cybercrime only authenticated recipients will be able to post

requirements after thorough verification of aadhar proof and documents submitted related to the requirements. The recipient can update the process on the post so that everyone can keep track of the situation. It has a voting feature for a better reach of the post across the community and features the comment section so that helpers can send their wishes and support to the recipient. In this proposed system, we enabled communication between users. The helpers can interact and show support directly with the recipients who posted the requirement through individual chat. We've used MongoDB cloud-based database to store a large number of data and also used AWS S3 storage services for storing the user's data such as images, videos, documents, etc.

CHAPTER 2

LITERATURE SURVEY

According to Vinay Ramappa, Doina Bein, 2018. An entire application can be built using MEAN STACK having JavaScript as a single language. They developed their application MusiqGlobe.fm using MEAN stack. It is an application where the users can create their playlist and listen to the songs. One of the drawbacks of this system is the uploaded files by the users are stored in local drives. [1]

According to Diotra Henriyan, Devie Pratama Subiyanti, 2017, communication between clients and servers can be achieved by using SOCKET IO. The communication and support for the Bandung and Indonesian people is the goal of this application. The limitation of the system is the usage of Mongo DB for smaller data but larger data requires a cloud-based database. [2]

According to Musu Bala Shuaibu, Ruqayyat Ahmad Ibrahim. 2017, opines that the unsuitable methodology could lead to damage to the confidentiality of the organization. Their proposed model achieved a 96 percent security level. [3]

According to Yuxiang Hou., 2017, says that the correct decision in the selection of framework will result in the development speed and performance of the system. Having said that, their model has a rapid development efficiency as an advantage and one of the drawbacks to concern is it is not programming language independent. [4]

According to Dr. Jay Kiruthika, Dr. Souheil Khadda. 2016, suggests some design criteria which can be used to develop a web application. The interactive experience of the user and their satisfaction are well said in this literature. UX and CX can be considered as one of the advantages of this system to bring contents that are user-centric. The disadvantage is the versatility and diversity of data shifts focus on user satisfaction. [5]

CHAPTER 3

METHODOLOGY

3.1 GENERAL OVERVIEW

We've used Angular for client-side development. It improves the user experience and is used for quick user request access. Two-way binding in angular helps the application by making changes both in view and model simultaneously. We've used node.js for the server-side. It is very quick for executing the code. Since our application request APIs for most of the operation, node.js is the most powerful tool because of the Asynchronous nature i.e. server will not wait for the API to return any data. It proceeds with the upcoming API call and some amazing features of Node.js assists the server for getting a response from the previous call. We have used MongoDB as a database management system. Generally, the database may slow down the whole system. Because of the change-friendly design of MongoDB new data are created without disturbing the other operations with no downtime. When it comes to performance we can't proceed without mentioning MongoDB powerful querying language MQL. It allowed us to go deep into data documents and perform complex querying with fewer lines of code. amazing features of angular were used for HTTP calls. Several methodologies are used for component interactions and for smooth front-end and back-end communication.

The architecture diagram is attached below:

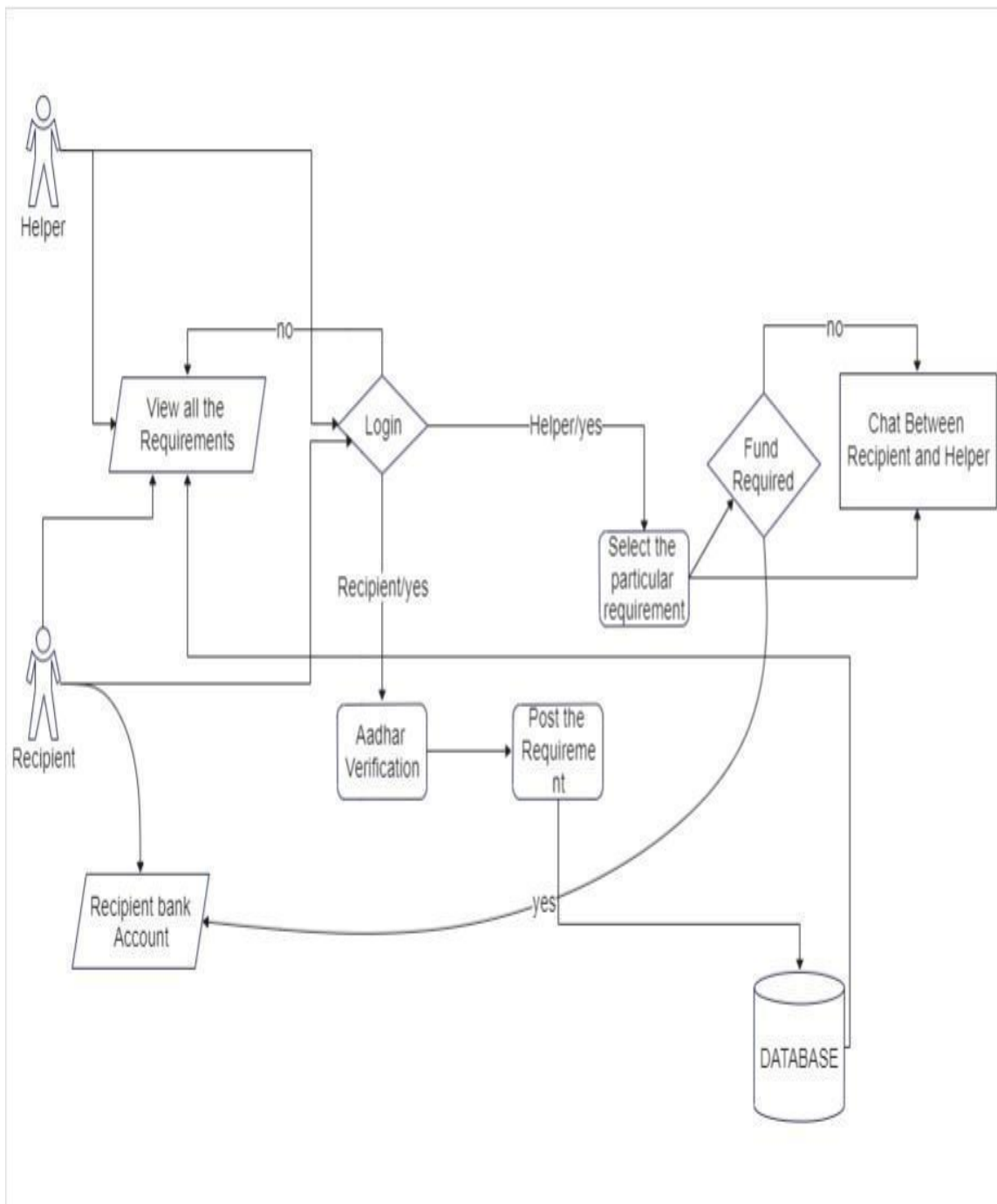


Fig 3.1 Architecture diagram

3.2 APPLICATION DESIGN

First, designed a database schema, which helped to get a clear picture on what is required and how it's going to perform.

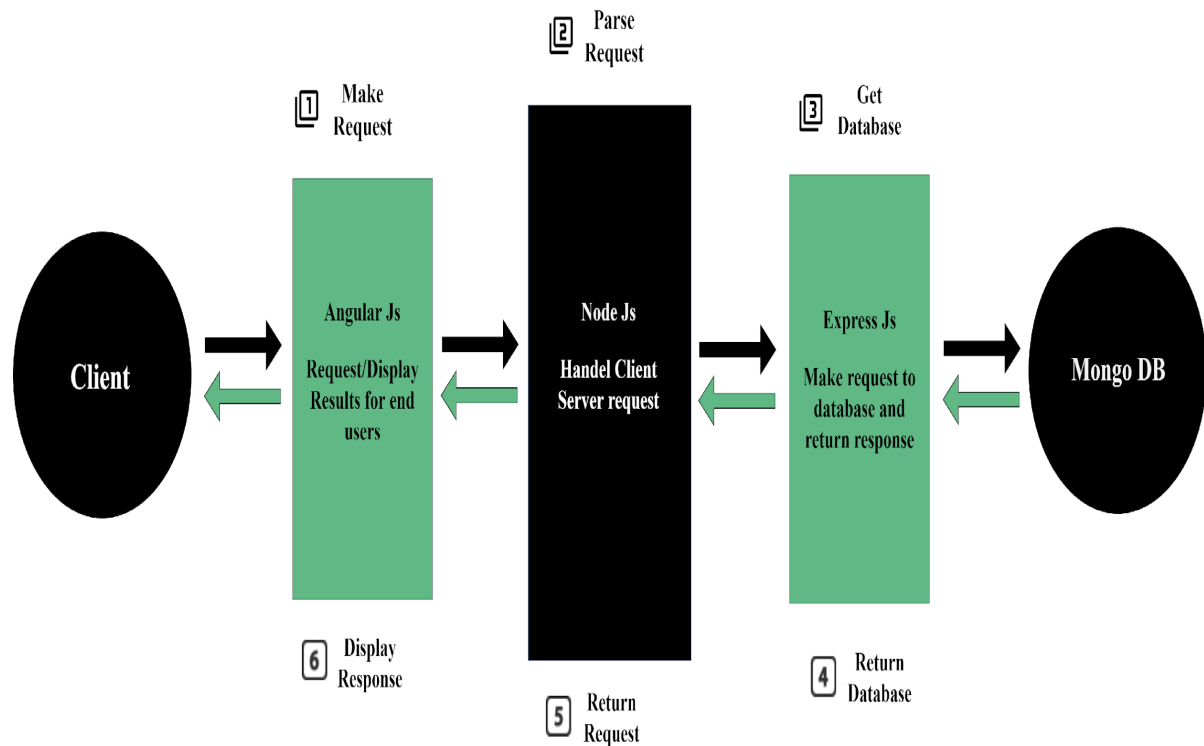


Fig 3.1 Application work Flow

3.3 CREATION OF DATABASE AND COLLECTIONS

Started working on the backend part first by creating a database and developed model Schema's for each and every collection. I've used mongoDB Cloud Atlas database for this.

3.3.1 MONGO DB

MongoDB is a document-oriented NoSQL database used for high volume data storage. Instead of using tables and rows as in the traditional relational databases, MongoDB makes use of collections and documents. Documents consist of key-value pairs which are the basic unit of data in MongoDB. Collections

contain sets of documents and function which is the equivalent of relational database tables. MongoDB is a database which came into light around the mid-2000s.

MongoDB Features

1. Each database contains collections which in turn contains documents. Each document can be different with a varying number of fields. The size and content of each document can be different from each other.
2. The document structure is more in line with how developers construct their classes and objects in their respective programming languages. Developers will often say that their classes are not rows and columns but have a clear structure with key-value pairs.
3. The rows (or documents as called in MongoDB) doesn't need to have a schema defined beforehand. Instead, the fields can be created on the fly.
4. The data model available within MongoDB allows you to represent hierarchical relationships, to store arrays, and other more complex structures more easily.
5. Scalability – The MongoDB environments are very scalable. Companies across the world have defined clusters with some of them running 100+ nodes with around millions of documents within the database.

3.3.2 NODE JS

It is used for server-side programming, and primarily deployed for non-blocking, event-driven servers, such as traditional websites and back-end API services, but was originally designed with real-time, push-based architectures in mind. Every browser has its own version of a JS engine and node. Node.js is an open-source, cross-platform runtime environment for developing server-side and networking applications. Node.js applications are written in JavaScript and can be run within the Node.js runtime on OS X, Microsoft Windows, and Linux. Node.js also provides a rich library of various JavaScript modules which simplifies the development of web applications using Node.js to a great extent. All APIs of the Node.js library are asynchronous, that is, non-blocking. It essentially means a Node.js-based server never waits for an API to return data. The server moves

to the next API after calling it and a notification mechanism of Events of Node.js helps the server to get a response from the previous API call. Node.js uses a single-threaded model with event looping. The event mechanism helps the server to respond in a non-blocking way and makes the server highly scalable as opposed to traditional servers which create limited threads to handle requests. Node.js uses a single-threaded program and the same program can provide service to a much larger number of requests than traditional servers like Apache HTTP Server.

3.4 BUILDING REST API'S

Built Rest API's using express.js based on the requirements and tested using POSTMAN.

3.4.1 EXPRESS JS

Express.js tutorial provides basic and advanced concepts of Express.js. Our Express.js tutorial is designed for beginners and professionals both. Express.js is a web framework for Node.js. It is a fast, robust and asynchronous in nature. Our Express.js tutorial includes all topics of Express.js such as Express.js installation on windows and linux, request object, response object, get method, post method, cookie management, scaffolding, file upload, template etc.

Express is a fast, assertive, essential and moderate web framework of Node.js. You can assume express as a layer built on the top of the Node.js that helps manage a server and routes. It provides a robust set of features to develop web and mobile applications.

Let's see some of the core features of Express framework:

- It can be used to design single-page, multi-page and hybrid web applications.
- It allows to setup middlewares to respond to HTTP Requests.
- It defines a routing table which is used to perform different actions based on HTTP method and URL.

- It allows to dynamically render HTML Pages based on passing arguments to templates.

3.5 WORKING ON CLIENT SIDE OF THE APPLICATION

Focused on the client side application to create a user friendly environment. I've used angular which is a famous javascript framework.

3.5.1 ANGULAR

AngularJS is a JavaScript-based open-source front-end web framework mainly maintained by Google and by a community of individuals and corporations to address many of the challenges encountered in developing single-page applications. It aims to simplify both the development and the testing of such applications by providing a framework for client-side model–view–controller (MVC) and model–view–view-model(MVVM) architectures, along with components commonly used in rich Internet applications. AngularJS is the frontend part of the MEAN stack, consisting of MongoDB database, Express.js web application server framework, Angular.js itself, and Node.js server runtime environment.

The AngularJS framework works by first reading the Hypertext Markup Language (HTML) page, which has additional custom HTML attributes embedded into it. Angular interprets those attributes as directives to bind input or output parts of the page to a model that is represented by standard JavaScript variables. The values of those JavaScript variables can be manually set within the code, or retrieved from static or dynamic JSON resources. AngularJS is built on the belief that declarative programming should be used to create user interfaces and connect software components, while imperative programming is better suited to defining an application's business logic.

3.5.2 HYPERTEXT MARKUP LANGUAGE (HTML)

Hypertext Markup Language (HTML) is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript. Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document. HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by tags, written using angle brackets. Tags such as `<img/>` and `<input />` directly introduce content into the page. Other tags such as `<p>` surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags, but use them to interpret the content of the page. HTML can embed programs written in a scripting language such as JavaScript, which affects the behavior and content of web pages. Inclusion of CSS defines the look and layout of content. The World Wide Web Consortium (W3C), former maintainer of the HTML and current maintainer of the CSS standards, has encouraged the use of CSS over explicit presentational HTML since 1997.

3.5.3 CASCADING STYLE SHEETS (CSS)

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language like HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript. CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file, and reduce complexity and repetition in the structural content. CSS information can be provided from various sources. These

sources can be the web browser, the user and the author. The information from the author can be further classified into inline, media type, importance, selector specificity, rule order, inheritance and property definition. CSS style information can be in a separate document or it can be embedded into an HTML document. Multiple style sheets can be imported. Different styles can be applied depending on the output device being used; for example, the screen version can be quite different from the printed version, so that authors can tailor the presentation appropriately for each medium. The style sheet with the highest priority controls the content display. Declarations not set in the highest priority source are passed on to a source of lower priority, such as the user agent style. The process is called cascading.

One of the goals of CSS is to allow users greater control over presentation. Someone who finds red italic headings difficult to read may apply a different stylesheet. Depending on the browser and the web site, a user may choose from various style sheets provided by the designers, or may remove all added styles and view the site using the browser's default styling, or may override just the red italic heading style without altering other attributes.

3.5.4 JAVASCRIPT

JavaScript is a cross-platform, object-oriented scripting language used to make webpages interactive (e.g., having complex animations, clickable buttons, popup menus, etc.). There are also more advanced server-side versions of JavaScript such as Node.js, which allow you to add more functionality to a website than downloading files (such as real-time collaboration between multiple computers). Inside a host environment (for example, a web browser), JavaScript can be connected to the objects of its environment to provide programmatic control over them.

3.6 FOR RESPONSIVE VIEW

3.6.1 *BOOTSTRAP*

Bootstrap tutorial provides basic and advanced concepts of Bootstrap. Our Bootstrap tutorial is designed for beginners and professionals.

Bootstrap is the popular HTML, CSS and JavaScript framework for developing a responsive and mobile friendly website. Our Bootstrap tutorial includes all topics of Bootstrap such as jumbotron, table, button, grid, form, image, alert, wells, container, carousel, panels, glyphicon, badges, labels, progress bar, pagination, pager, list group, dropdown, collapse, tabs, pills, navbar, inputs, modals, tooltip, popover and scrollspy.

3.6.2 *ANGULAR MATERIAL*

Angular Material is a User Interface (UI) component library that developers can use in their Angular projects to speed up the development of elegant and consistent user interfaces. Angular Material offers you reusable and beautiful UI components like Cards, Inputs, Data Tables, Date pickers, and much more.

Each component is ready to go with default styling that follows the Material_Design Specification. Nonetheless, you can easily customize the look and feel of Angular Material components. The list of available Angular Material components continues to grow with each iteration of the library.

3.7 API METHODS

3.7.1 *AJAX*

AJAX = Asynchronous JavaScript And XML. AJAX is not a programming language. AJAX just uses a combination of: A browser built-in XMLHttpRequest object (to request data from a web server) JavaScript and HTML DOM (to display or use the data). AJAX allows web pages to be updated asynchronously by exchanging small amounts of data with the server behind the scenes. This means that it is possible to update parts of a web page, without reloading the whole page.

3.7.2 *FETCH*

The Fetch API is a simple interface for fetching resources. Fetch makes it easier to make web requests and handle responses than with the older XMLHttpRequest, which often requires additional logic (for example, for handling redirects). Note: Fetch supports the Cross-Origin Resource Sharing (CORS). `forEach` is synchronous, while `fetch` is asynchronous. While each element of the results array will be visited in order, `forEach` will return without the completion of `fetch`, thus leaving you empty-handed. The response of a `fetch()` request is a Stream object, which means that when we call the `json()` method, a Promise is returned since the reading of the stream will happen asynchronously.

3.7.3 *HTTP GET*

Use GET requests to retrieve resource representation/information only – and not to modify it in any way. As GET requests do not change the state of the resource, these are said to be safe methods. Additionally, GET APIs should be idempotent, which means that making multiple identical requests must produce the same result every time until another API (POST or PUT) has changed the state of the resource on the server.

3.7.4 *HTTP POST*

Use POST APIs to create new subordinate resources, e.g., a file is subordinate to a directory containing it or a row is subordinate to a database table. When talking strictly in terms of REST, POST methods are used to create a new resource into the collection of resources.

CHAPTER 4

RESULT AND DISCUSSION

It is an interactive web application between the recipient who seeks support and the helper who gives support. The recipient must register in the application to proceed further. The recipient can post the requirements like financial help for a child's education, food for an organization, blood donation, or anything which the seeker needs. All the details should be filled in for creating a story and details will be posted only after thorough verification. Verification will be based on the documents that the recipient submitted regarding the issue and also with valid identity proof. The helper can give support and if he/she finds that particular post/story need immediate attention, they can vote for it for a better reach. The recipient will be able to update the status of the story so that fellow users can keep track of this. If the story needs some financial support, the helper can check the details and transfer the fund directly in the application. If there is some other need, the helper can chat directly with the recipient in the chat column.

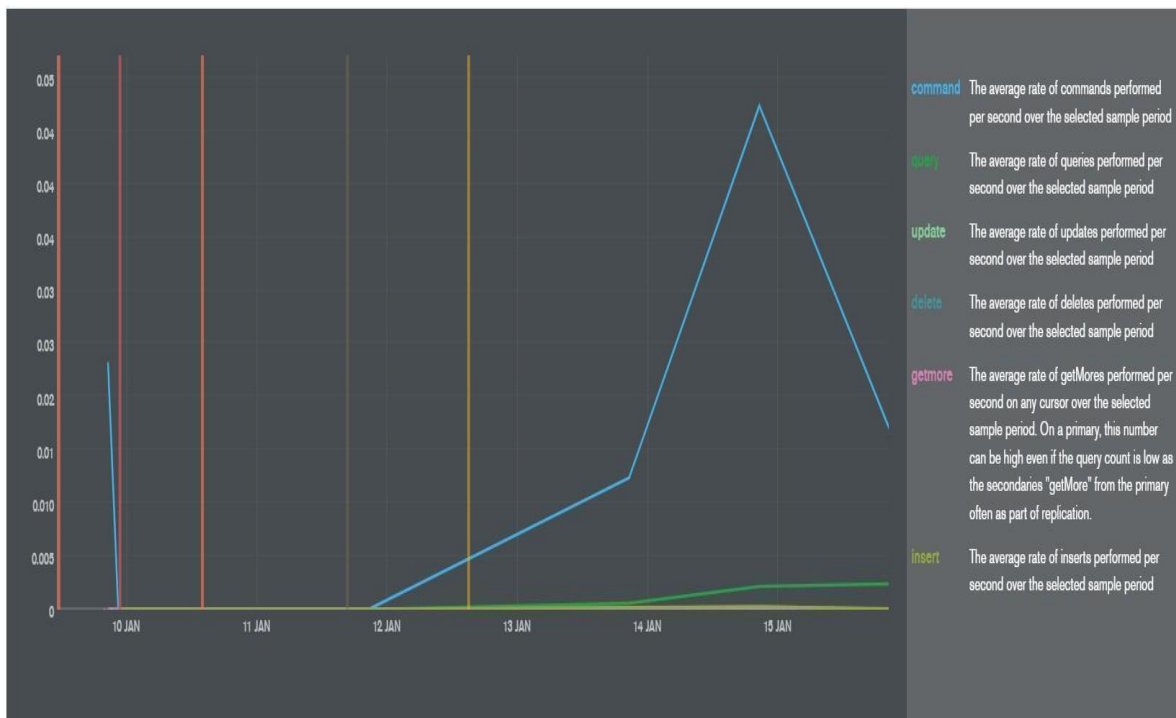


Fig 4.1 Query Analysis 1

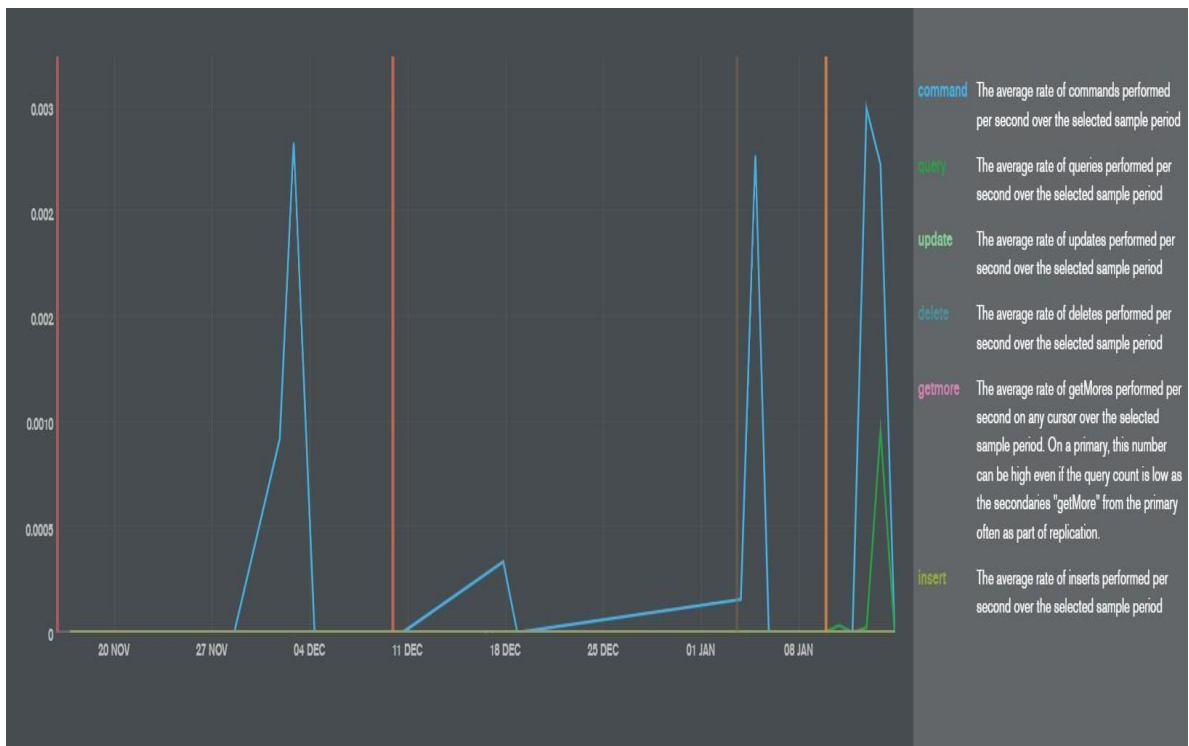


Fig 4.2 Query Analysis 2

The above results are the analysis of query operations performed on the database of our application.

CHAPTER 5

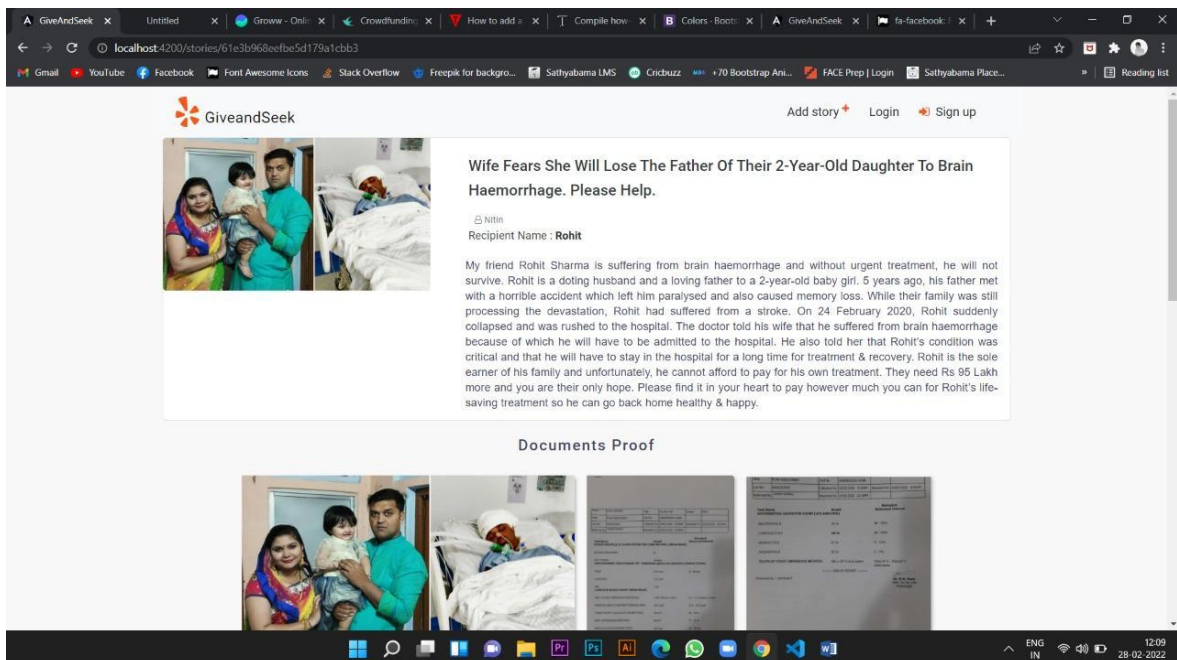
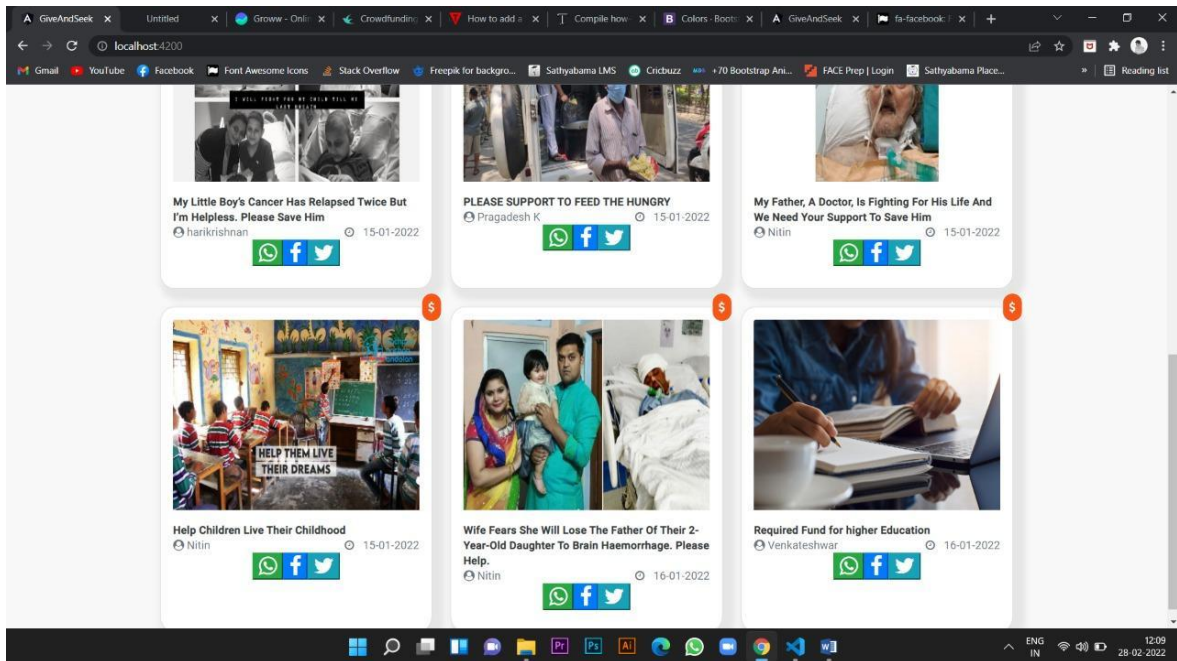
CONCLUSION AND FUTURE WORK

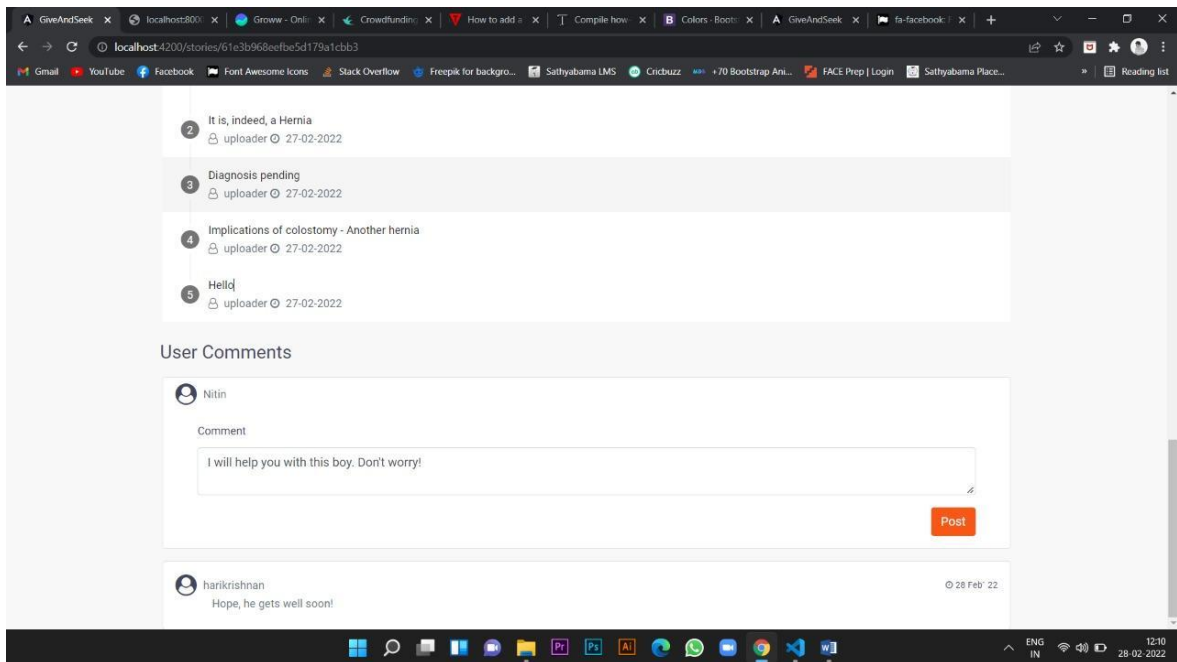
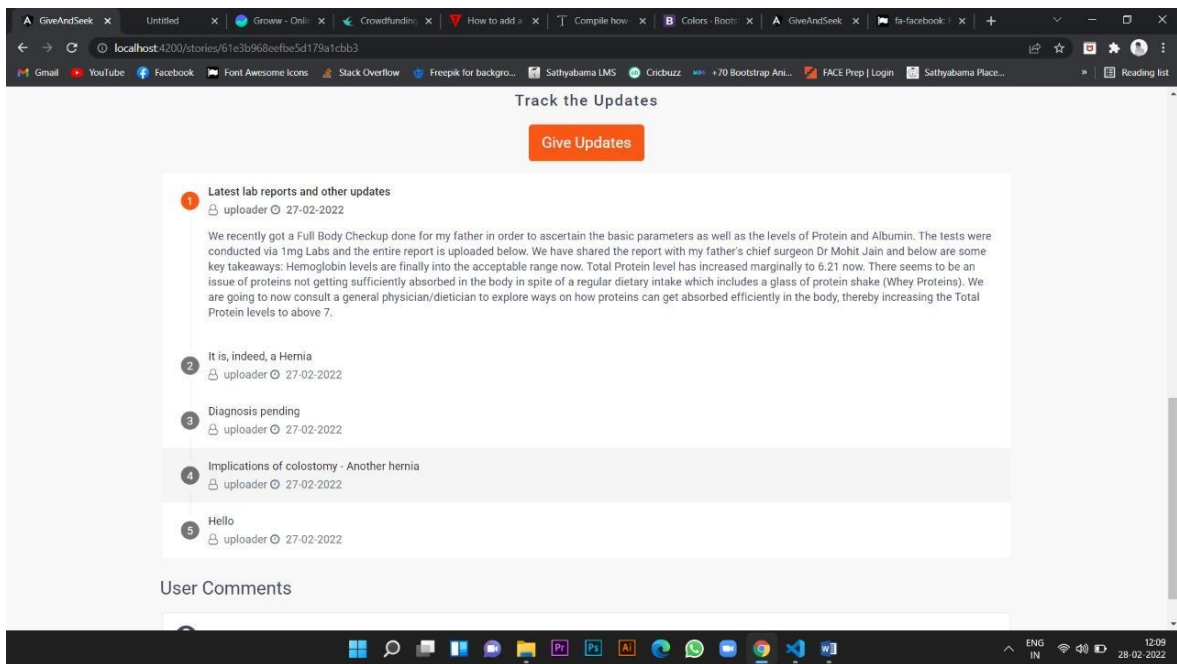
5.1 CONCLUSION

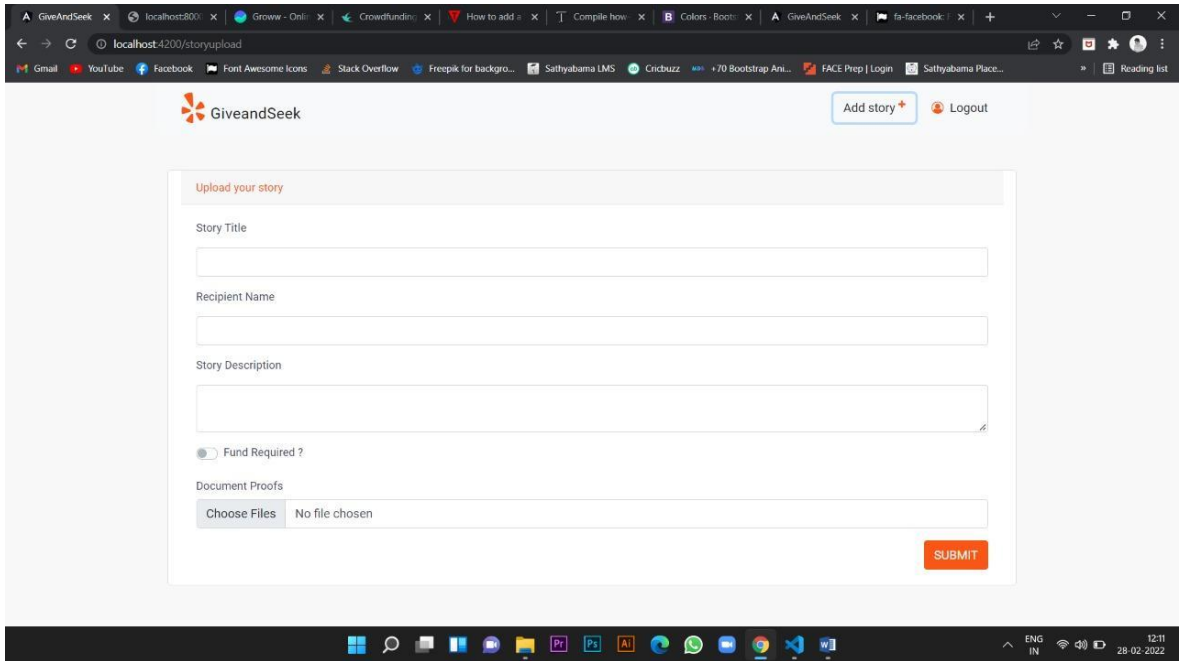
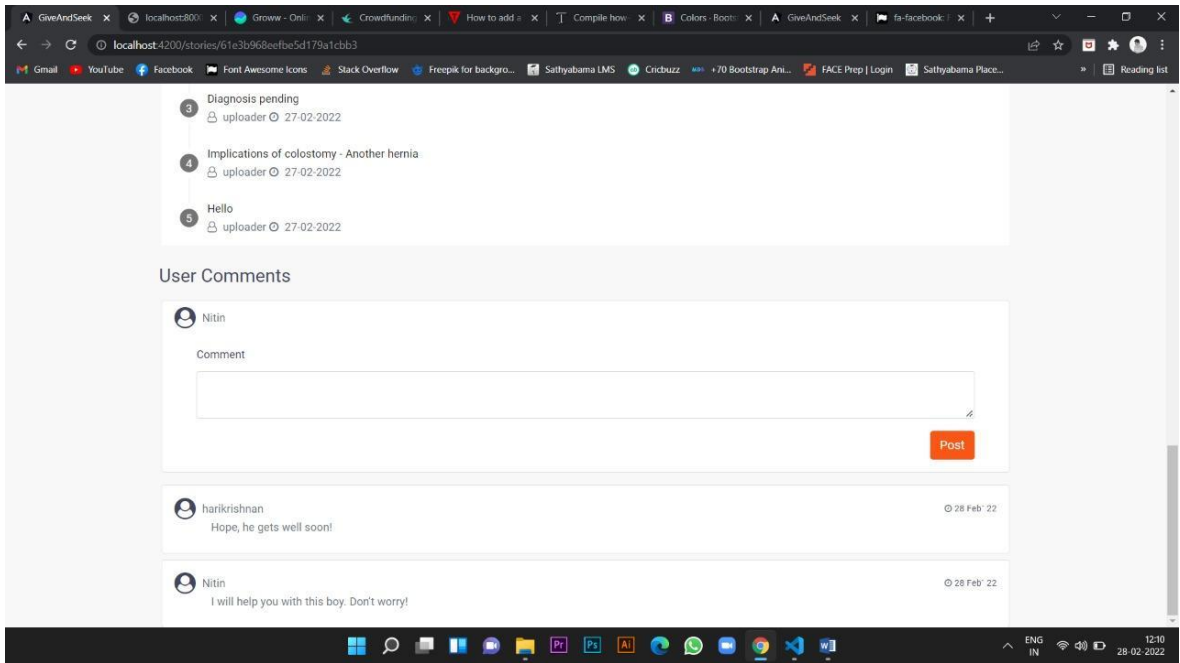
We conclude this paper by saying that our system paved the way to achieve our purpose which is building a product that can be useful to others who need help and support at the right time. In addition to that, our main objectives were to allow as many people as possible to access coordinated support for free, as long as we can. To implement an interactive platform between the recipient and the helper. To eliminate fraudulent activities and cybercrime and to provide the helper directly communicate with the recipient to learn and discuss the cause much deeper and send some concerns. To make our idea into a real web application MEAN stack has taken away our concerns technology-wise and various API that makes our work a lot easier. We followed a suitable web application model to build this site which made the data-passing easier and the Angular framework helped to give a smooth and attractive user interface along with an improved user experience. This web application is not only for computers and laptops but also designed for mobile. Certain web-framework helped us to make our application a responsive one.

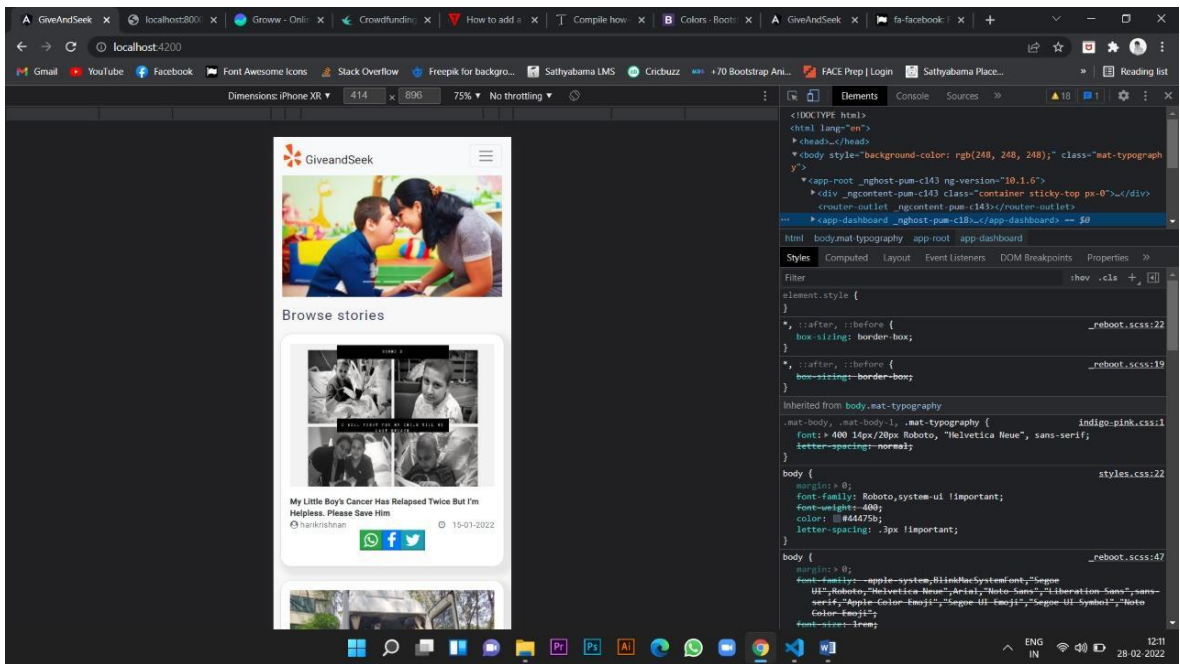
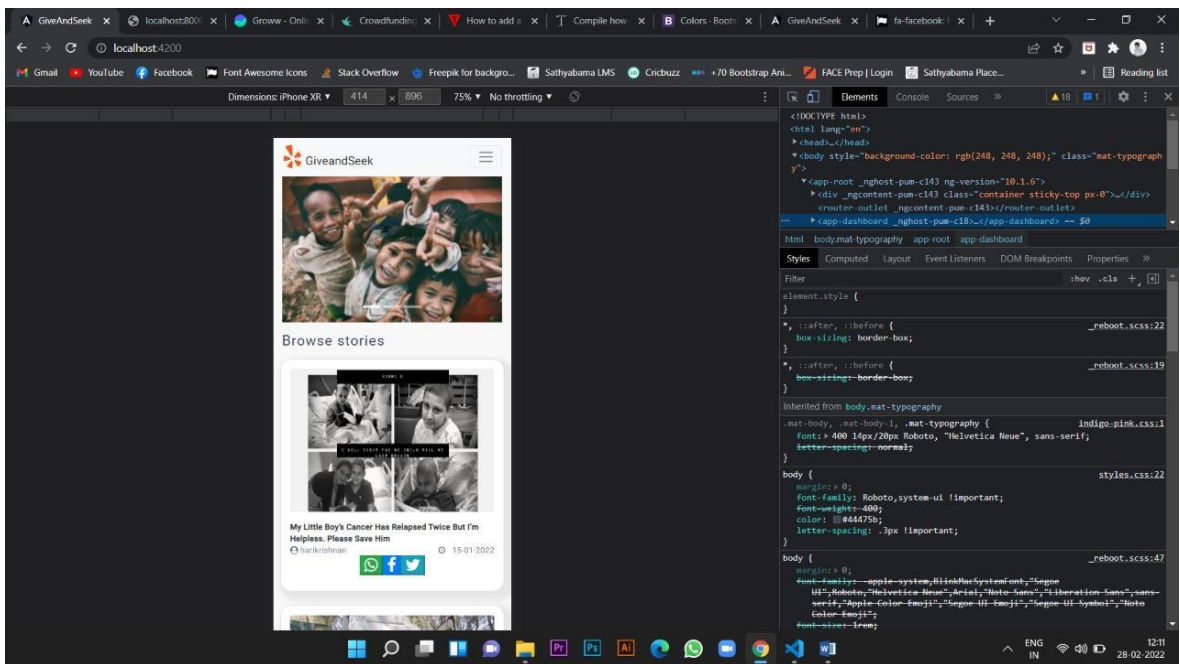
APPENDIX

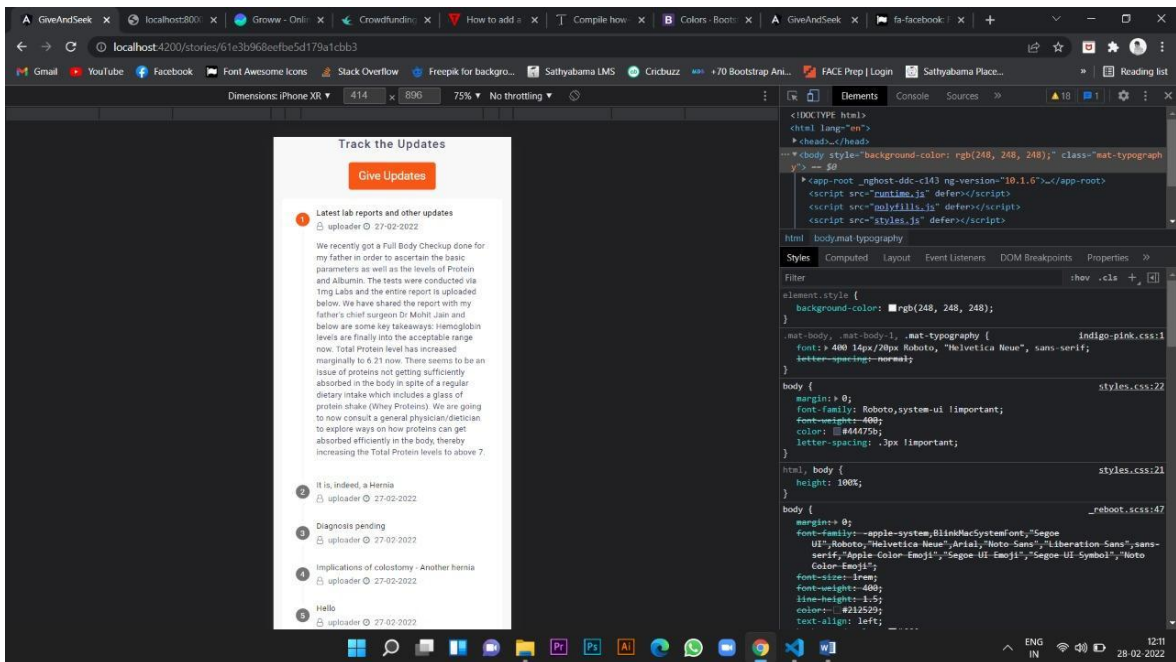
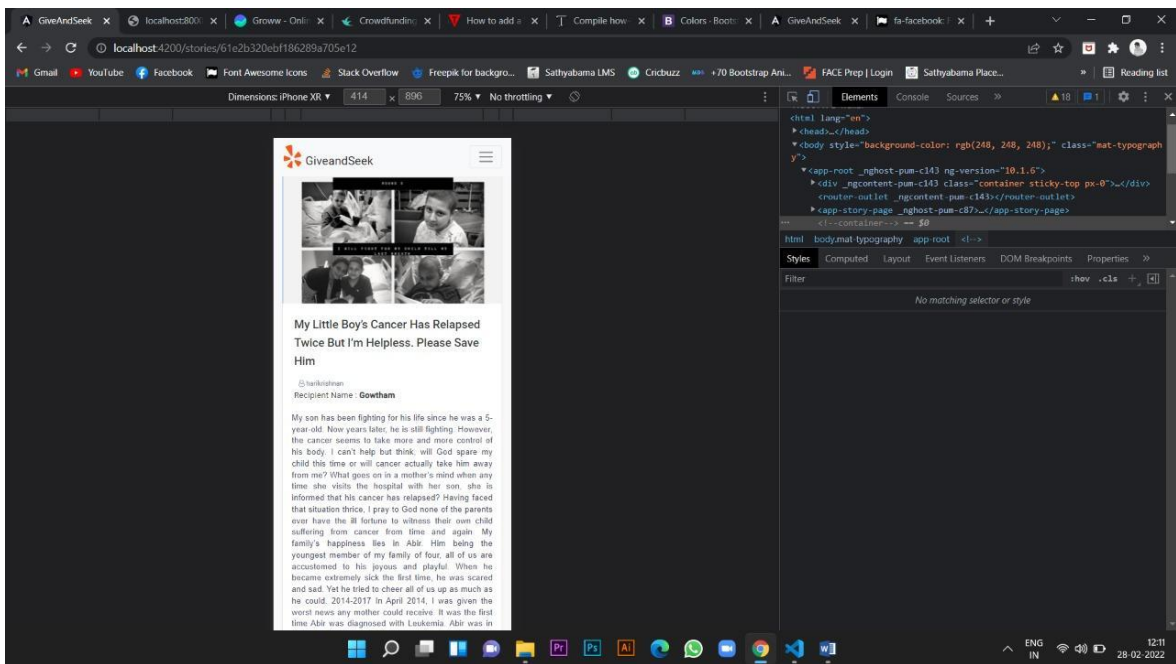
A. SCREEN SHOTS OF THE APPLICATION



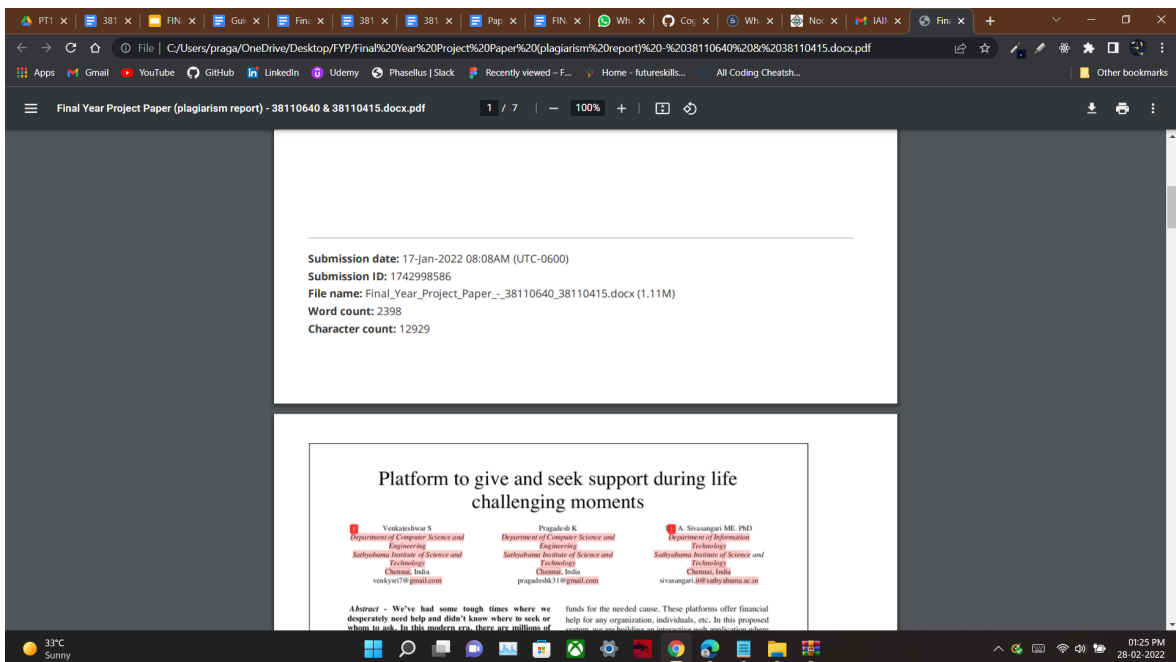
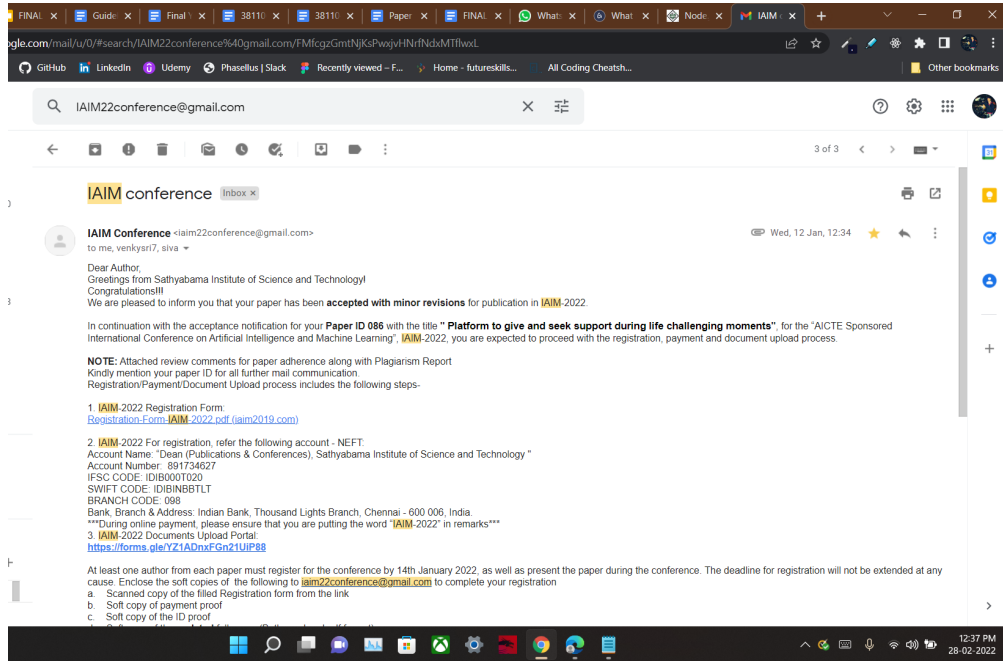


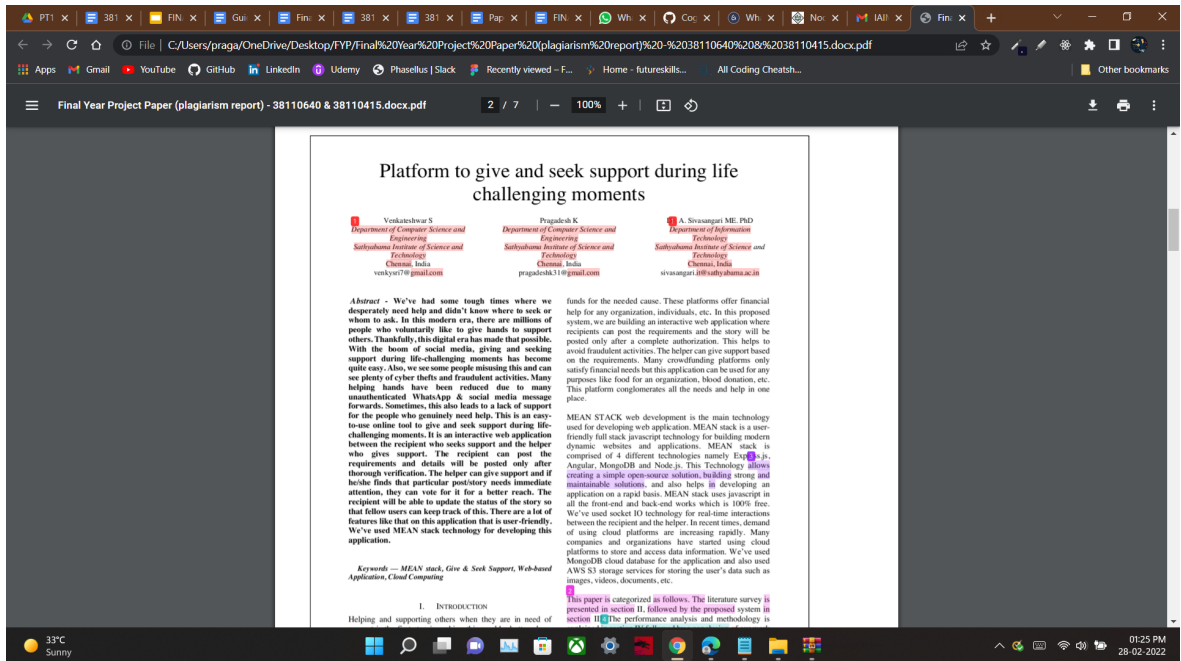


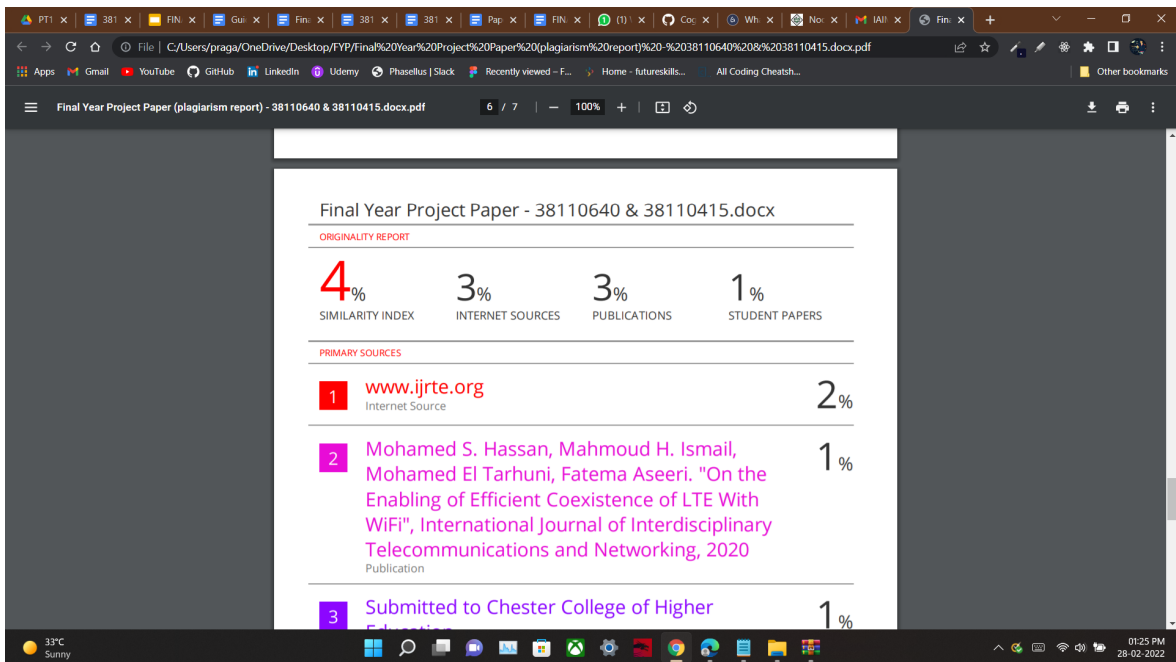
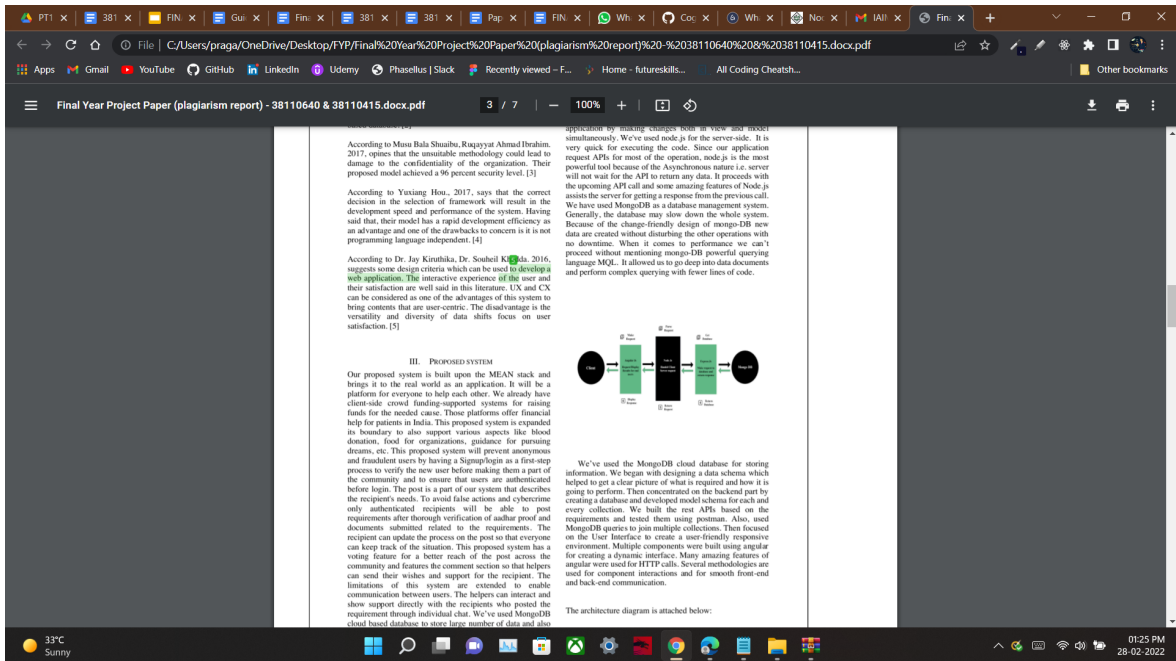




B. PUBLICATION AND PLAGIARISM REPORT







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