HITKARINI COLLEGE OF ENGINEERING & TECHNOLOGY JABALPUR (M.P)

HITKARINI HILLS, DUMNA ROAD, TEMBHAR, JABALPUR

RUN BY HITKARINI SABHA, JABALPUR

(Approved by AICTE & Affiliated to RGPV Bhopal)

A

MAJOR PROJECT REPORT

ON

SocialChat Web Application

Submitted for fulfillment of the requirement for the degree of

BACHELOR OF ENGINEERING

(COMPUTER SCIENCE AND ENGINEERING)

Under The Guidance of

MR. NITIN JHARBADE

H.O.D.(CS)

Submitted By

SHRISHTI NAMDEO	**(0203CS191044)**
NISHANT PRANAV	**(0203CS191029)**
AMAN SINGH	**(0203CS191004)**
ARUNESH SINGH	**(0203CS191007)**

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

HITKARINI COLLEGE OF ENGINEERING AND TECHNOLOGY

JABALPUR (M.P) 2023

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Certificate

This is to certify that Major Project entitled **"SocialChat Web Application"** Submitted by *"SHRISHTI NAMDEO (0203CS191044), NISHANT PRANAV (0203CS191029), ARUNESH SINGH (0203CS191007) & AMAN SINGH (0203CS191004)"* has been carried out under my guidance and supervision. The project report is approved for submissiontowards partial fulfillment of the requirement for the award of degree of Bachelor of Engineering in*"COMPUTER SCIENCE AND ENGINEERING "* from *"RAJIV GANDHI PROUDYGIKI VISHWAVIDYALAY, BHOPAL (M.P.)"*

…… ……

INTERNEL EXAMINAR **EXTERNAL EXAMINER**

Date: Date:

HITKARINI COLLEGE OF ENGINEERING & TECHNOLOGY JABALPUR (M.P)

HITKARINI HILLS, DUMNA ROAD, TEMBHAR, JABALPUR
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……

Prof. **NITIN JHARBADE**

Professor CSE

H.C.E.T. JABALPUR

……

Prof. **NITIN JHARBADE**

H.O.D.(CS)

H.C.E.T. JABALPUR

HITKARINI COLLEGE OF ENGINEERING & TECHNOLOGY JABALPUR (M.P)

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RUN BY HITKARINI SABHA, JABALPUR
(Approved by AICTE & Affiliated to RGPV Bhopal)

CANDIDATE DECLARATION

We hereby declare that the project report on **"SocialChat Web Application "** submitted by "*SHRISHTI NAMDEO (0203CS191044), NISHANT PRANAV (0203CS191029), ARUNESH SINGH (0203CS191007) & AMAN SINGH (0203CS191004)*)" for partial fulfillment for the award of Bachelor of Engineering in COMPUTER SCIENCE AND ENGINEERING " from "RAJIV GANDHI PROUDYGIKI VISHWAVIDYALAY, BHOPAL (M.P.)"is the authentic record of our work done .The matter reported in the report has not been submitted earlier for the award of degree.

Date :- .....

SUBMITTED BY

SHRISHTI NAMDEO (0203CS191044)

NISHANT PRANAV (0203CS191029)

AMAN SINGH (0203CS191004)

ARUNESH SINGH (0203CS191007)

ACKNOWLEDGEMENT

We express our independence and deep sense of gratitude our guide " Prof. NITIN JHARBADE (H.O.D. COMPUTER SCIENCE AND ENGINEERING)" for his efficient and valuable guidance. We acknowledge our sincere gratitude to the timely help rendered by him for completion of this project.

We are thankful to " Prof. NITIN JHARBADE (H.O.D. COMPUTER SCIENCE AND ENGINEERING)" who helped enough to help us during the course of studies and for this project. We heartedly appreciate the college staff members for their kind support.

SHRISHTI NAMDEO (0203CS191044)

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1. INTRODUCTION

Social chat refers to the act of engaging in informal, often spontaneous conversations with others through various digital communication platforms, such as social media, instant messaging, chat rooms, forums, and online gaming communities. It allows individuals to connect with others from different parts of the world, share information, express opinions, and build relationships. Social chat has become increasingly popular over the years, as it provides a convenient way to communicate with others without the need for face-to-face interaction. It can be used for a variety of purposes, such as staying in touch with friends and family, networking with colleagues, meeting new people, or simply passing the time. Social chatting systems can be accessed through desktop and mobile devices, making it possible for users to communicate with others anytime and anywhere. They also provide users with privacy and security features, such as end-to-end encryption, two-factor authentication, and blocking and reporting tools, to ensure that their personal information and conversations remain safe. Overall, social chatting systems have revolutionized the way people communicate and interact with each other, providing a convenient and accessible way to connect with others from around the world. Some popular examples of social chatting systems include WhatsApp, Facebook Messenger, WeChat, Line, and Telegram. These platforms offer various features, such as text messaging, voice and video calls, group chats, media sharing, and online gaming, to enhance the user experience.

1.1 OBJECTIVE

The primary objective of social chat is to facilitate communication and interaction between individuals over the internet. Social chat allows people to connect with others from different parts of the world, regardless of their physical location or time zone, and engage in informal conversations in real-time. Some of the key objectives of social chat include:

1. Connecting people: Social chat helps people to connect with each other and build relationships. It enables individuals to find and connect with others who share similar interests, backgrounds, or hobbies.
2. Sharing information: Social chat allows people to share information, news, and ideas with others. It provides a platform for individuals to discuss and exchange knowledge on various topics.
3. Entertainment: Social chat provides entertainment and recreational opportunities for users. It offers features such as gaming, media sharing, and virtual events to keep users engaged and entertained.
4. Business networking: Social chat can be used for professional networking and business purposes. It enables individuals to connect with colleagues, clients, and industry peers, share knowledge and information, and build professional relationships.

Overall, the objective of social chat is to enhance communication and connection between individuals, providing a platform for socializing, entertainment, and information sharing.

1.2 SCOPE

The scope of social chat can vary depending on the context in which it is used. Generally speaking, social chat refers to any form of communication that takes place between individuals or groups of people with the goal of building social connections, exchanging information, or simply having fun.

In the context of online platforms such as social media, social chat can involve a wide range of activities, including messaging, commenting, sharing posts, participating in group discussions, and more. Social chat can also occur in real-life situations, such as at parties, social events, or gatherings with friends.

The scope of social chat can be limited to a specific topic or interest, or it can be more general and open-ended. Some social chat may revolve around discussing current events or news, while other conversations may be more personal in nature, such as sharing experiences or discussing relationships.

Overall, the scope of social chat is broad and encompasses a wide range of communication styles, contexts, and purposes.

1.3 PURPOSE

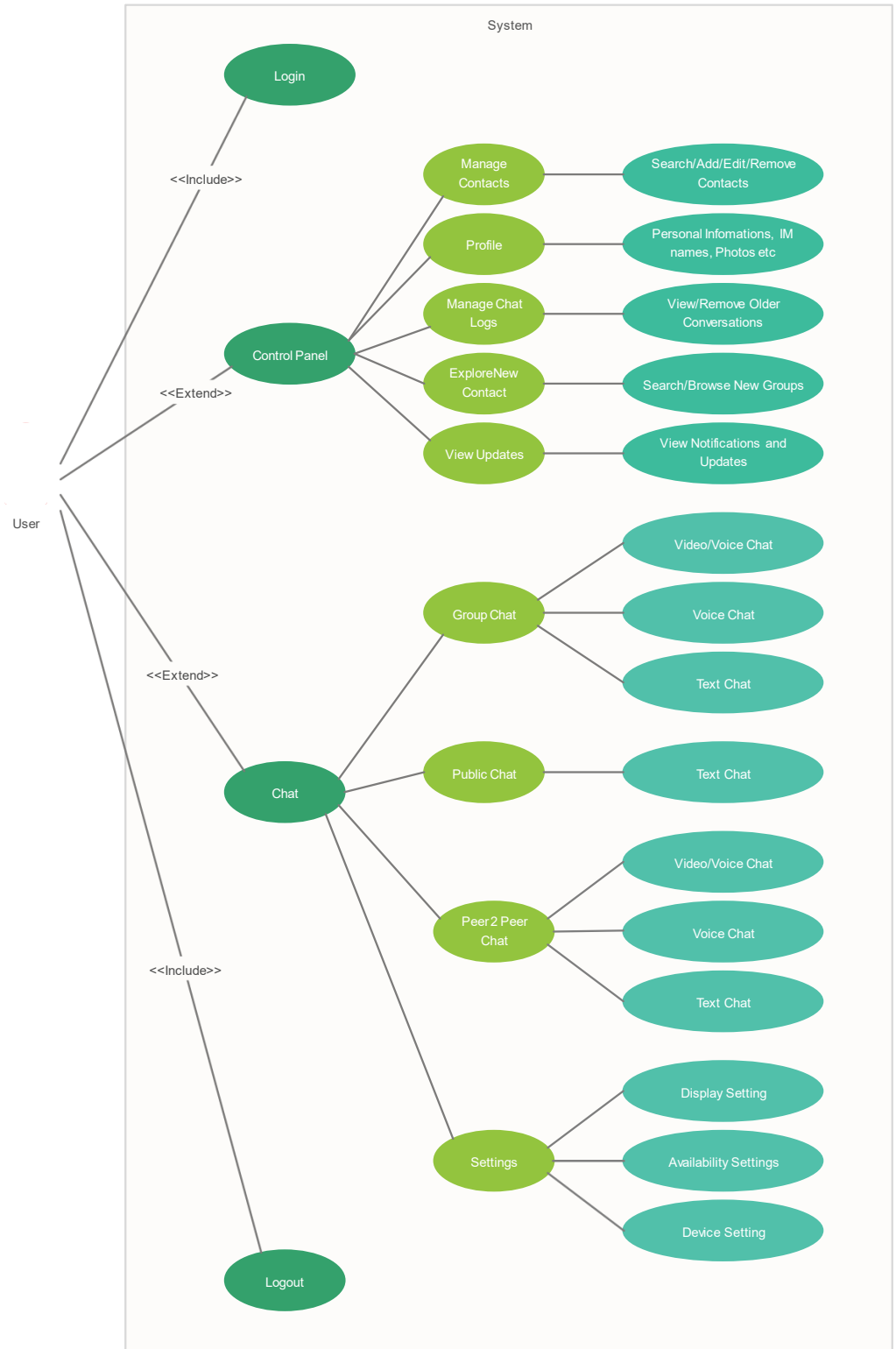
The purpose of social chat is to facilitate social interaction and communication between individuals. It provides a platform for people to connect, share ideas, opinions, and experiences with each other. Social chat can help people build relationships, form communities, and stay in touch with friends and family members who are geographically distant. It can also serve as a source of entertainment and a way to pass the time. In general, social chat is a way for people to fulfill their basic human need for social interaction and connection.

2. DESIGN

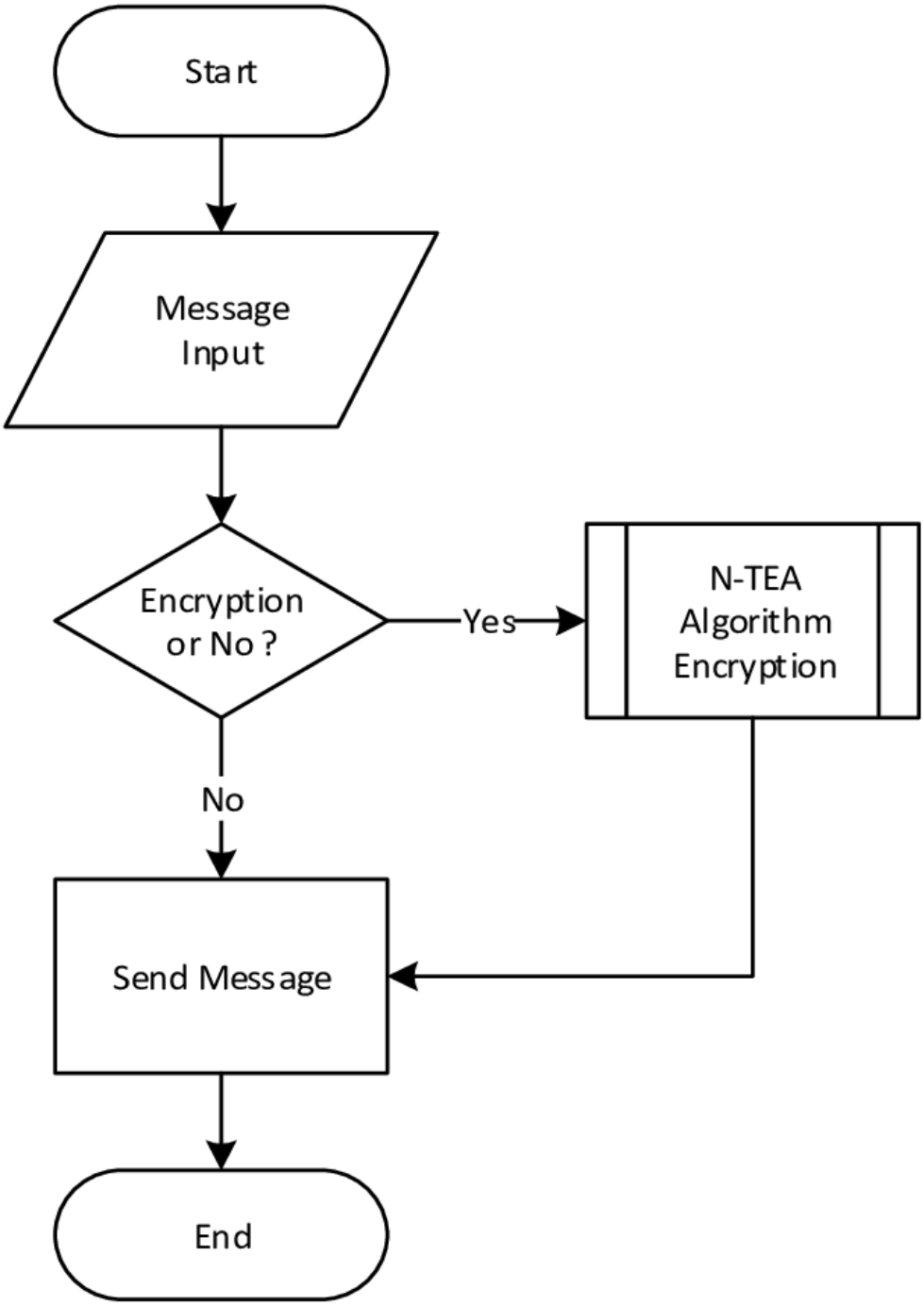
Social chat refers to the act of engaging in informal, often spontaneous conversations with others through various digital communication platforms, such as social media, instant messaging, chat rooms, forums, and online gaming communities. It allows individuals to connect with others from different parts of the world, share information, express opinions, and build relationships. Social chat has become increasingly popular over the years, as it provides a convenient way to communicate with others without the need for face-to-face interaction. It can be used for a variety of purposes, such as staying in touch with friends and family, networking with colleagues, meeting new people, or simply passing the time. Social chatting systems can be accessed through desktop and mobile devices, making it possible for users to communicate with others anytime and anywhere. They also provide users with privacy and security features, such as end-to-end encryption, two-factor authentication, and blocking and reporting tools, to ensure that their personal information and conversations remain safe. Overall, social chatting systems have revolutionized the way people communicate and interact with each other, providing a convenient and accessible way to connect with others from around the world. Some popular examples of social chatting systems include WhatsApp, Facebook Messenger, WeChat, Line, and Telegram. These platforms offer various features, such as text messaging, voice and video calls, group chats, media sharing, and online gaming, to enhance the user experience.

Social media is a really convenient and important communicate network for all the people nowadays. We can use it to know friends and keep contact with friends that came from different countries. We can also share our ideas so quickly so that all the things could develop so fast because people could tell us their ideas and we could improve it immediately. We could also learn new things on social media by watching or reading the things that people shared onto the social media. People could also sell things on social media freely which could reduce the expenditure of advertisements.

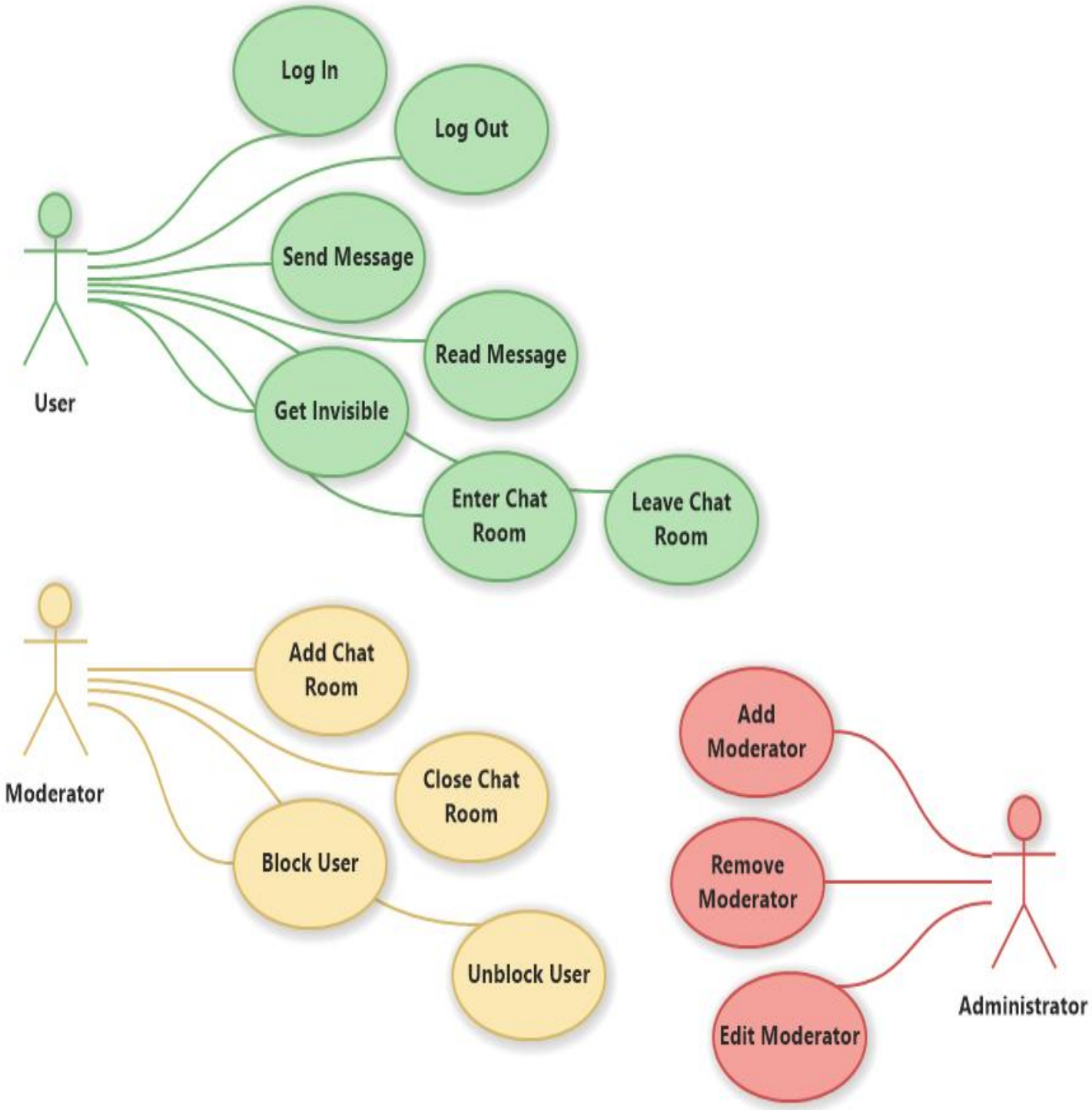
2.1. E-R Diagram



2.2. DATA FLOW DIAGRAM



2.3. CLASS DIAGRAM



3. MODEL BUILDING

Model building and training in social chat involves the creation and optimization of algorithms and systems that facilitate communication and interaction between users. This can be achieved through various techniques and technologies, such as natural language processing, machine learning, and deep learning.

The first step in model building is to define the problem statement and identify the requirements of the system. This includes determining the features and functionalities that the social chat system should have, such as messaging, chatbots, user profiles, and privacy settings.

Once the requirements are established, data collection and preprocessing are performed. This involves gathering and cleaning data from various sources, such as user profiles, conversations, and user-generated content, to prepare it for modeling.

Next, a suitable machine learning or deep learning algorithm is selected and trained on the preprocessed data. The trained model is then tested and evaluated using various metrics, such as accuracy, precision, and recall, to ensure that it performs optimally.

After the model has been tested and validated, it can be deployed in a production environment, where it is integrated into the social chat system and used to facilitate communication between users.

Model building and training in social chat is an ongoing process, as the system needs to continuously adapt and improve to meet the changing needs and preferences of users. Therefore, it is important to regularly collect feedback from users and incorporate it into the system to ensure its continued success.

3.1 API (APPLICATION PROGRAMING INTERFACE)

API stands for Application Programming Interface. In the context of APIs, the word Application refers to any software with a distinct function. Interface can be thought of as a contract of service between two applications. This contract defines how the two communicate with each other using requests and responses. Their API documentation contains information on how developers are to structure those requests and responses.

API architecture is usually explained in terms of client and server. The application sending the request is called the client, and the application sending the response is called the server. So in the weather example, the bureau's weather database is the server, and the mobile app is the client.

3.2 FRONT END (EJS TEMPLATE INGINE)

A Front-End Developer is someone who creates websites and web applications.
The difference between Front-End and Back-End is that Front-End refers to how a web page looks, while back-end refers to how it works.
You can think of Front-End as **client-side** and Back-End as **server-side**.
The basic languages for Front-End Development are HTML, CSS, and JavaScript.

EJS (Embedded JavaScript Templating) is one of the most popular template engines for JavaScript. As the name suggests, it lets us embed JavaScript code in a template language that is then used to generate HTML.
In this article, I will walk you through a detailed guide to templating your Node application with EJS.

3.3 BACK END

The back end refers to parts of a computer application or a program's code that allow it to operate and that cannot be accessed by a user. Most data and operating syntax are stored and accessed in the back end of a computer system. Typically the code is comprised of one or more programming languages. The back end is also called the data access layer of software or hardware and includes any functionality that needs to be accessed and navigated to by digital means.
The layer above the back end is the front end and it includes all software or hardware that is part of a user interface. Human or digital users interact directly with various aspects of the front end of a program, including user-entered data, buttons, programs, websites and other features. Most of these features are designed by user experience (UX) professionals to be accessible, pleasant and easy to us.

4. LIMITATION OF PROJECTS

While social chat has many benefits, it also has its limitations. Some of the limitations of social chat include:

1. Lack of personal touch: Social chat can be impersonal, as it relies solely on digital communication. It can be difficult to convey tone, emotion, and other nonverbal cues through text-based chat, which can make it challenging to form close relationships and build trust.

2. Time-consuming: Social chat can be time-consuming, as conversations often require immediate attention and can become lengthy. This can lead to distractions and interruptions in daily life, as well as a feeling of being overwhelmed or burnt out.

3. Privacy concerns: Social chat platforms may have privacy concerns, as personal information and conversations may be shared or accessed by unauthorized individuals or entities. This can lead to a loss of privacy and security, as well as potential legal and ethical issues.

4. Limited social interaction: While social chat can facilitate communication and connection between individuals, it may not be a substitute for in-person social interaction. It can be difficult to establish deeper connections and intimacy through digital channels, which can limit the social benefits of social chat.

5. Technical difficulties: Social chat platforms can experience technical difficulties, such as server downtime, connectivity issues, and software bugs. These can lead to frustration and a loss of productivity, as well as a decrease in the quality of communication and interaction.

Overall, while social chat has many benefits, it is important to recognize and address its limitations to ensure that it is used in a safe, effective, and productive manner.

5. DEVELOPMENT TOOLS & PROGRAM CODE

5.1. DEVELOPMENT TOOLS

Hardware Tools

1. Processor - i3 or above
2. Hard Disk - 1 TB
3. RAM - 8GB
4. Mouse – Optical
5. Keyboard - 122 keys

Software Tools

1. Platform- Windows
2. Operating Systems - Windows, Linux
3. Technology : html,css,bootstrap,javascript,nodejs,connect-flash,connect-mongo, cookie-parser,nodemailer,passport,passport-jwt,jsonwebtoken,crypto,ejs,express

   3.1 datbase: mongodb

4. scripting language: javascript

5.2 PROGRAM CODE

HOME PAGE DESIGN:

```
{
    console.log("home_posts_comments script loaded");
    let createComment=function(){
        let newCommentForms=$('.new-comment-form');
        newCommentForms.each(function(){
            $(this).submit(function(e){
                e.preventDefault();
                $.ajax({
                    type:'post',
                    url:'/comments/create',
                    data:$(this).serialize(),
                    success:function(data){
                        // console.log(data.data.comment.content);
                        let newComment=newCommentDom(data.data.comment);
                        $(`#post-comments-${data.data.comment.post}`).prepend(newComment);
                        deleteComment($(' .delete-comment-button',newComment));
                        new Noty({
                            theme: 'relax',
                            text: data.message,
                            type: "success",
                            layout: "topRight",
                            timeout: 1500
                        }).show();
                    },
                    error:function(err){
                        console.log("Inside err");
                        console.log(err.responseText);
                    }
                })
            })
        })
    }
    function newCommentDom(comment){
        return $(`<li type="square" id="comment-${comment._id}">
        <p>
                <small>
                    <a href="/comments/destroy/${comment._id}"  class="delete-comment-button">
                        Delete this comment
                    </a>
                </small>
            <big>
                ${ comment.content}
            </big>
```

```
 <br>
            <br>
            <small>
                  ~ Commented by :- ${comment.user.name}
            </small>
        </p>
    </li>`)

    }
    // method to delete a comment from the DOM
    let deleteComment=function(deleteLink){


        $(deleteLink).click(function(e){
            e.preventDefault();

            $.ajax({
                type: 'get',
                url: $(deleteLink).prop('href'),
                success:function(data){
                    // console.log("Executed");
                    $(`#comment-${data.data.comment_id}`).remove();
                    new Noty({
                        theme: 'relax',
                        text: data.message,
                        type: "success",
                        layout: "topRight",
                        timeout: 1500

                    }).show();

                },
                error:function(error){
                    console.log(error.responseText);
                }


            });
        });

    }
    createComment();
    $('.delete-comment-button').each(function() {
        deleteComment($(this));
    });
}
```

PACKAGES:

```
{
 "name": "codeial",
 "version": "1.0.0",
 "description": "A social media app",
 "main": "index.js",
 "scripts": {
     "start": "nodemon index.js",
     "test": "echo \"Error: no test specified\" && exit 1",
     "prod_start": "NODE_ENV=production nodemon index.js"

 },
 "keywords": [
     "social"
 ],
 "author": "Arunesh",
 "license": "ISC",
 "dependencies": {
     "connect-flash": "^0.1.1",
     "connect-mongo": "^4.6.0",
     "cookie-parser": "^1.4.6",
     "crypto": "^1.0.1",
     "ejs": "^3.1.8",
     "express": "^4.18.2",
     "express-ejs-layouts": "^2.5.1",
     "express-session": "^1.17.3",
     "jsonwebtoken": "^9.0.0",
     "kue": "^0.11.6",
     "mongoose": "^6.9.2",
     "multer": "^1.4.5-lts.1",
     "node-sass-middleware": "^1.0.1",
     "nodemailer": "^6.9.1",
     "passport": "^0.6.0",
     "passport-google-oauth": "^2.0.0",
     "passport-jwt": "^4.0.1",
     "passport-local": "^1.0.0"
 }
}
```

MODELS:

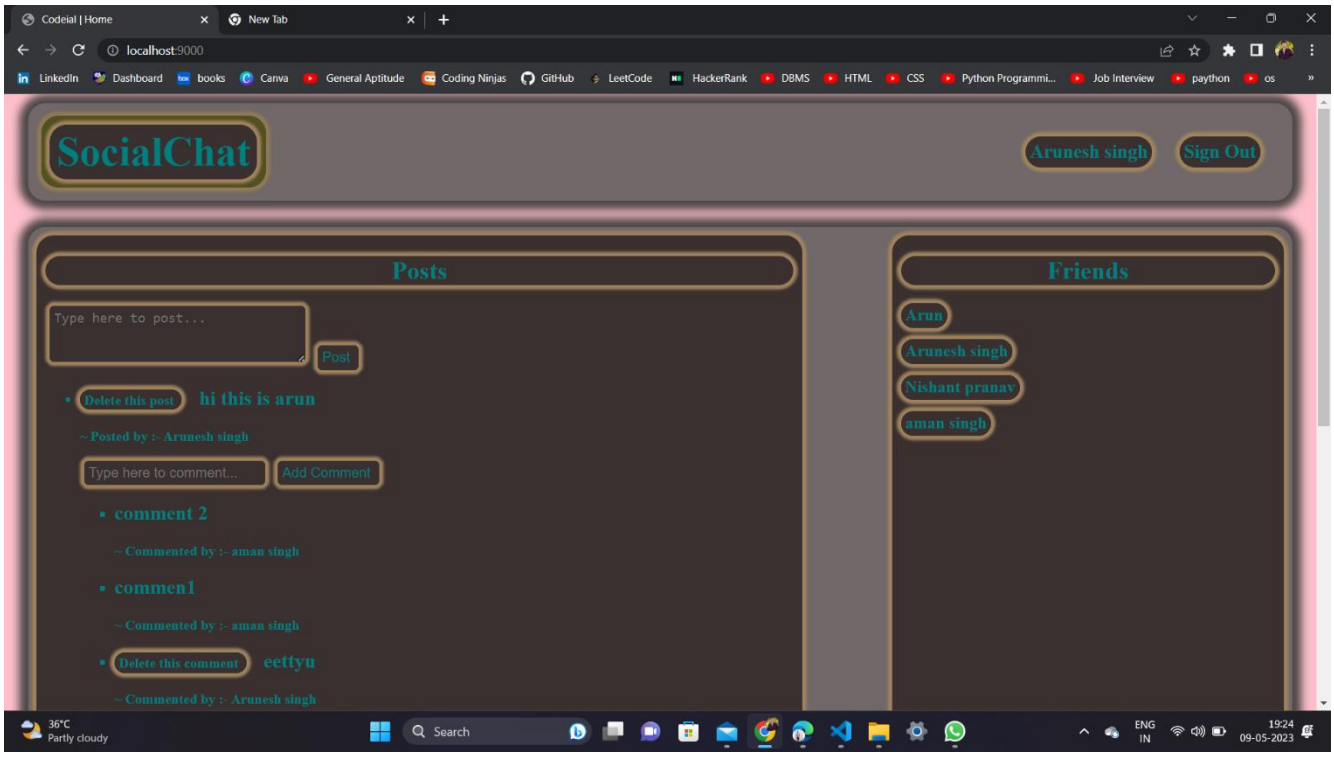
```
const mongoose=require('mongoose');


const commentSchema=new mongoose.Schema({
    content:{
        type:String,
        required:true
    },
    // Comments belongs to a user
    user:{
        type:mongoose.Schema.Types.ObjectId,
        ref:'User'
    },
    post:{
        type:mongoose.Schema.Types.ObjectId,
        ref:'Post'

    }
},{
    timestamps:true
});


const Comment=mongoose.model('Comment',commentSchema);
module.exports=Comment;
```

MAILERS:

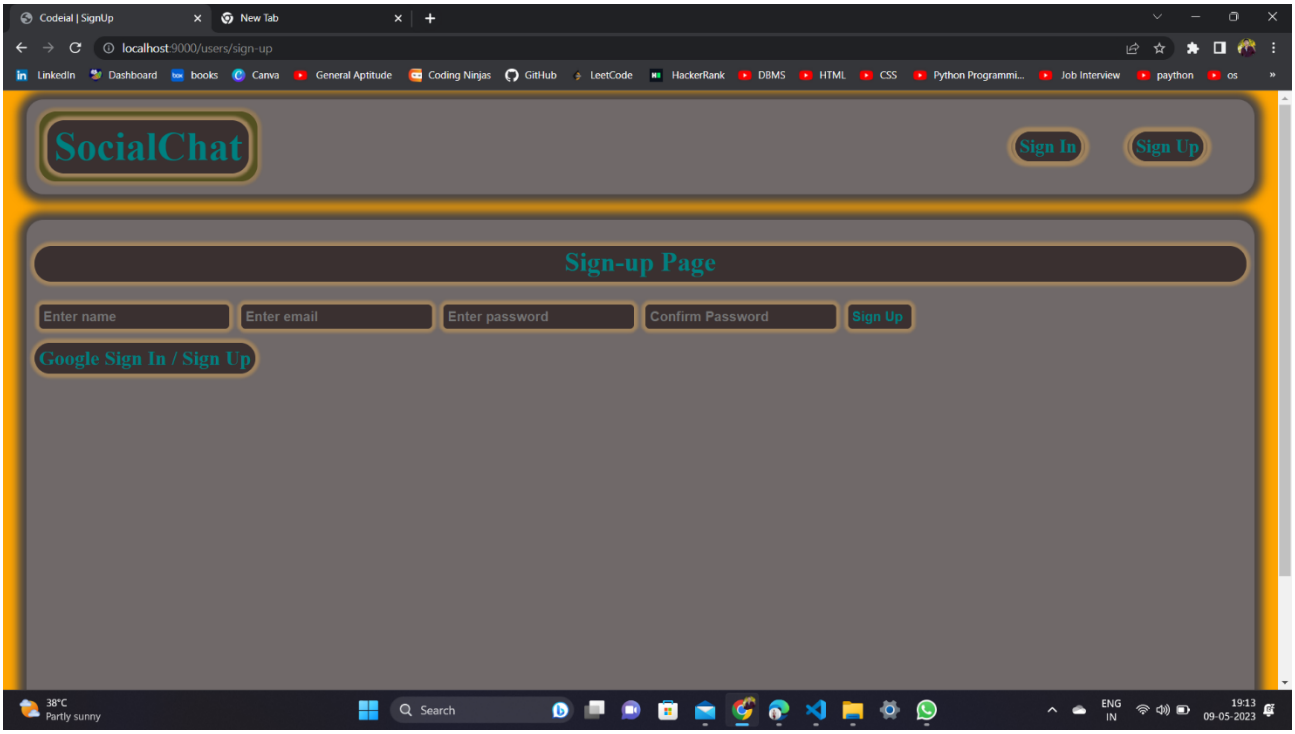
```
print('\nAutoencoder: Accuracy on training Data: {:.3f}' .format
(const mongoose=require('mongoose');


const commentSchema=new mongoose.Schema({
    content:{
        type:String,
        required:true
    },
    // Comments belongs to a user
    user:{
        type:mongoose.Schema.Types.ObjectId,
        ref:'User'
    },
    post:{
        type:mongoose.Schema.Types.ObjectId,
        ref:'Post'

    }
},{
    timestamps:true
});


const Comment=mongoose.model('Comment',commentSchema);
module.exports=Comment;
```

6.RESULTS & SCREENSHOT

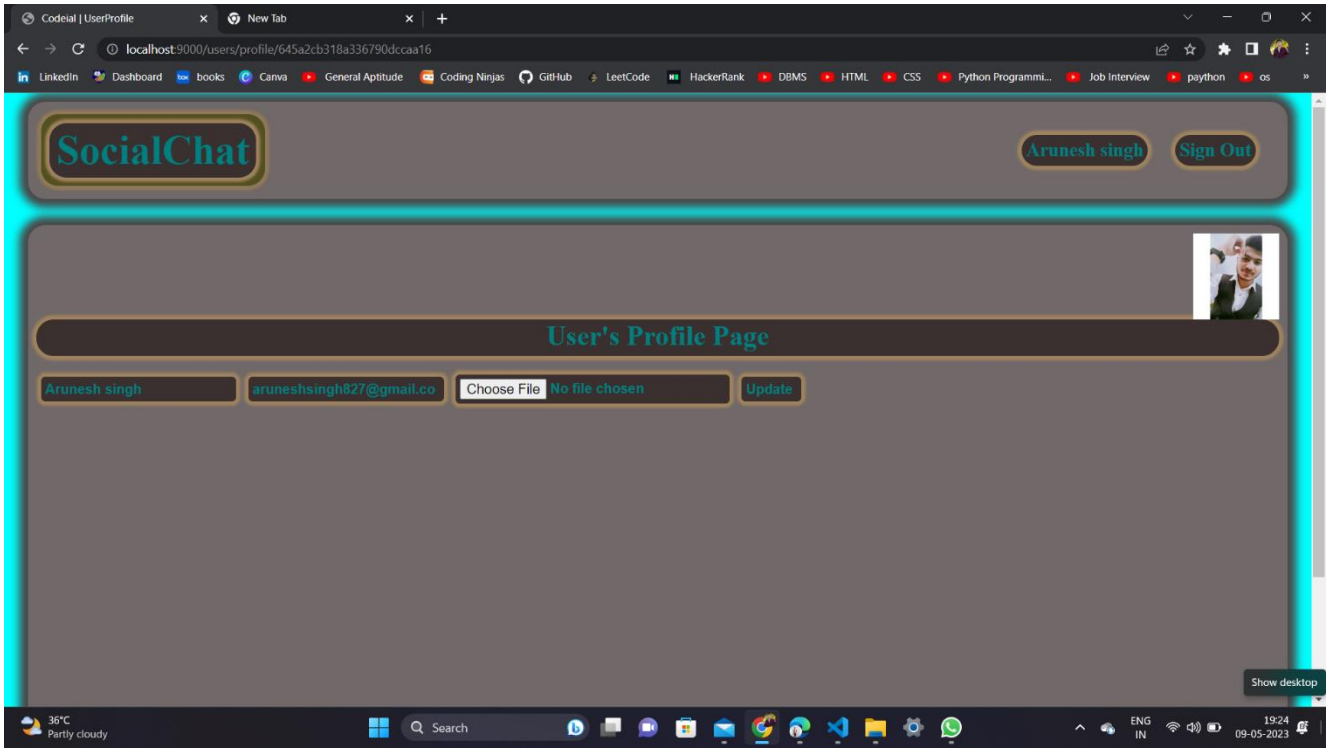
HOME PAGE



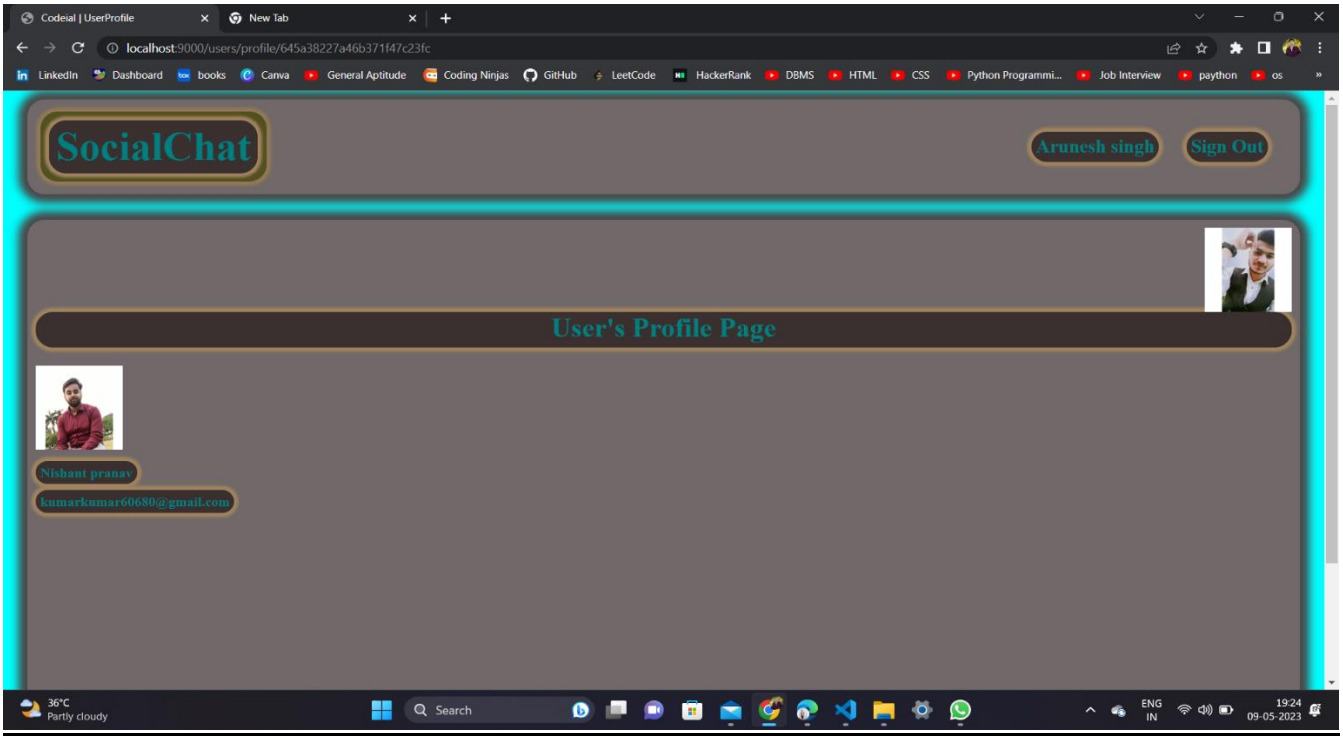
SIGNUP PAGE



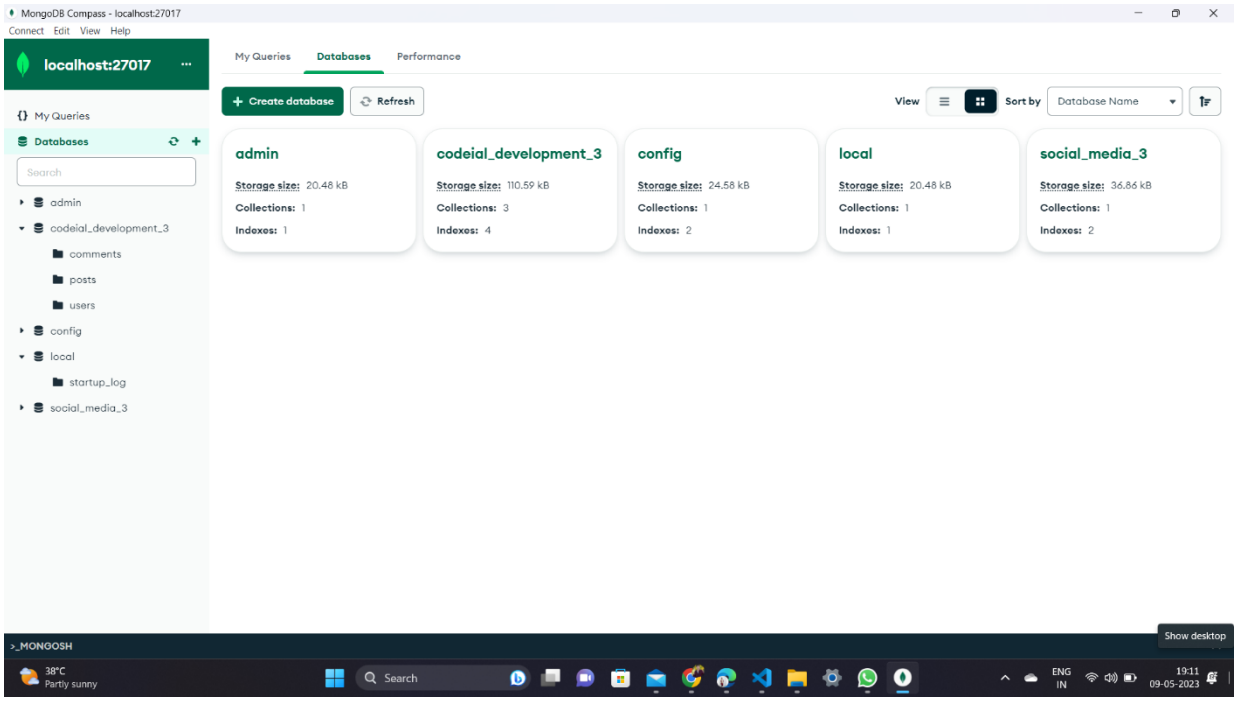
PROFILE PAGE



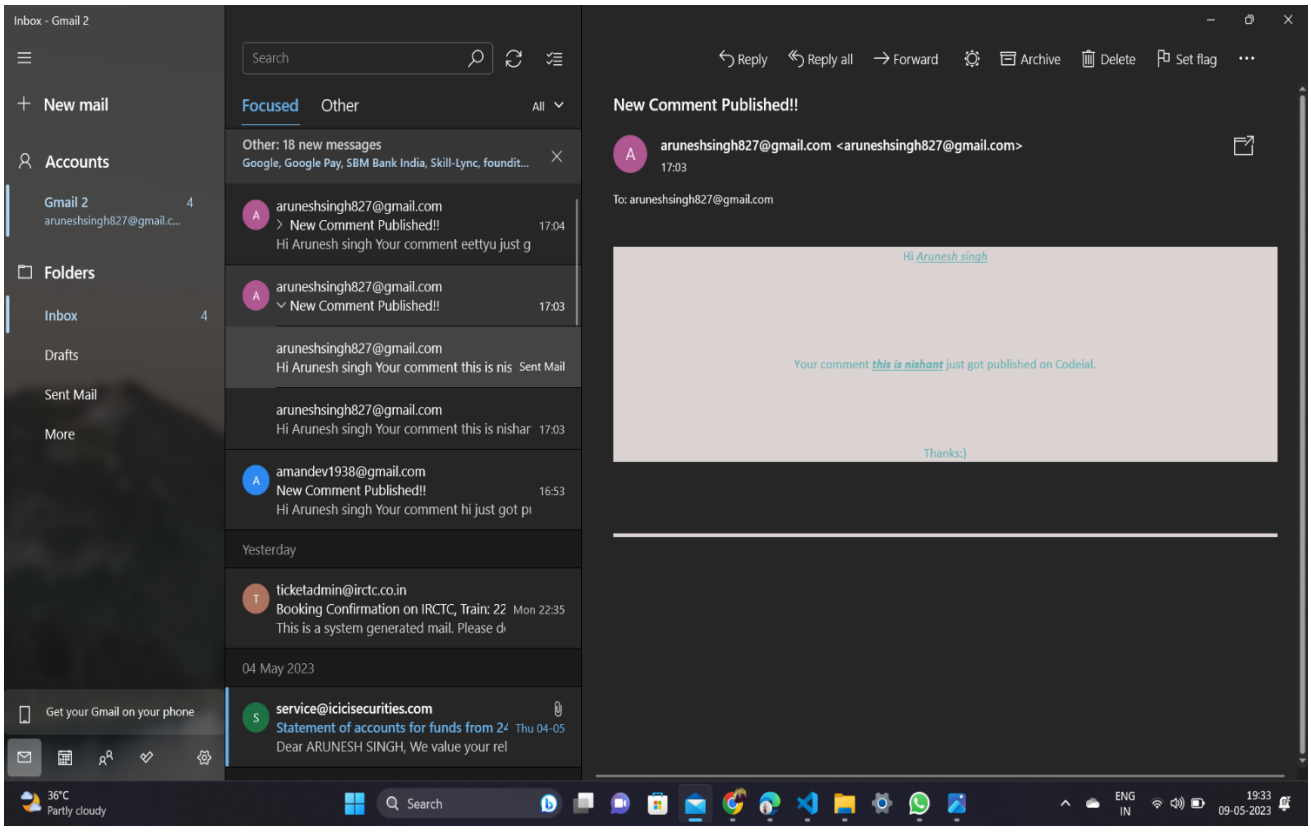
OTHER USERS PROFILE



DATABASE



SEND MAIL ALERT



7.FUTURE WORK & CONCLUSION

7.1 FUTURE WORK

Messaging has become a part of our everyday lives in part due to its convenience for real-time chat communication and simple-to-use functionality. For instance, an iOS or text message on an iPhone or Android device from a friend, an email from a co-worker on Microsoft or Gmail, a team chat in a Slack or Microsoft Teams workspace, or even instant messaging through social media. These messaging and real-time chat applications play an important role in how the world interacts today, due to their immediacy and vast capabilities.

7.2 Conclusion:

Social media is a really convenient and important communicate network for all the people nowadays. We can use it to know friends and keep contact with friends that came from different countries. We can also share our ideas so quickly so that all the things could develop so fast because people could tell us their ideas and we could improve it immediately. We could also learn new things on social media by watching or reading the things that people shared onto the social media. People could also sell things on social media freely which could reduce the expenditure of advertisements.

There are more advantages for using social media, however, there is always advantages and disadvantages for a thing. As social media is too convenient for people, almost most of them don't even have to 'speak out' to communicate with people. No longer, people will lost their communication skills. The more serious problem is many people utilised the power of social media and used it to bully someone. The power of social media is also same as the one in real life. A little of them used social media to do things that against the law, which is a fool behaviour.

Social media changed our life so much. Our life became more convenient because social media is a very useful tool for us in 21st century, it could help us to improve our life. However, we have to aware of how we use them. If we could use the social media smartly, having social media will become a good change for us.

8. REFERENCES

https://blog.keías.io/building-autoencodeís-in-keías.html https://en.wikipedia.oíg/wiki/Autoencodeí https://mc.ai/a-beginneís-guide-to-build-stacked-autoencodeí-and-tying-weights-with-it/ https://github.com/shíeyagopal/t81_558_deep_leaíning/blob/masteí/t81_558_class_14_03_anomaly.ipynb https://machineleaíningmasteíy.com/save-gíadient-boosting-models-xgboost-python/