

# **Certificate**

This is to certify that Shivam Kaushal of Class 12 of Ch. Balbir Singh Public School under my guidance and supervision has completed his project titled “Multipurpose Website” as part of his computer practical examination, held for AISSCE 2021 by the CBSE. The information is correct and has fulfilled all the conditions to the best of my knowledge and information. The project embodies his original work.

**Examiner**

**Mrs. Simmi Thakur  
Computer Teacher**

# **Acknowledgement**

I wish to express my deep gratitude and thanks to Mrs. Simmi Thakur, computer teacher who guided me to do this project on a part of my studies entitled "Multipurpose Website"

I also thank my Principal, Ms. Ranjana Anand for providing me all the facilities to finish the project on time. Last but not the least, I thank my parents for helping me economically and giving me a helping hand at every step of the project.

# Multipurpose Website

It is a Multipurpose Website Developed Using Python Flask, Users can Check Weather of a City, Total COVID Cases of India, Verify his/her Mobile Number, Can Send Email to Any Valid Email ID

**Checking Weather of a City:** User will be asked to Enter City Name in Form Then The Code will fetch Weather Using the Weather API and will Display it.

**Total COVID Cases of India:** This Page will Display Total COVID cases By fetching from COVID API

**Mobile Verification:** User Will be asked to Enter the Mobile Number in the form and then the Code will send the OTP to that Number using D7-Verify API and then the User will be Redirected to another Page where he will enter the OTP and the Code will verify that OTP using the API

**Sending Email:** User will be asked to enter the recipient Email in the form Then the Code will verify that the Email is Deliverable or Not Using Zerobounce API. If it is valid then the user will be Redirected to New page to Enter Subject And Content Of Email then the Email will be sent using Flask-Mail Library

# Requirements

- Python 3
- Python Flask
- Python requests
- HTML
- CSS
- Bootstrap
- Weather API
- COVID19 API
- D7-Verify API
- Zerobounce API
- Git

I have used Linux Ubuntu OS and  
Visual Studio Code as My Code Editor  
To Develop this Project

Git is used to save different versions of this  
Project at [github.com/shivam907](https://github.com/shivam907)

This Project is Available at My Github  
Repository <https://github.com/shivam907/school>

# CODE DIRECTORIES

- school/flaskblog
  - ◆ /static
    - main.css
    - /pics/cez.png
  - ◆ /templates
    - contact.html
    - covid.html
    - email.html
    - home.html
    - layout.html
    - mob.html
    - send.html
    - verify.html
    - weather.html
  - ◆ \_\_init\_\_.py
  - ◆ forms.py
  - ◆ routes.py
  - ◆ requirements.txt
- run.py

## How to Run the Code

First of all go to inside school directory then open terminal (in Linux)  
/Command Prompt ( in Windows) then type

```
shivam@shivam:~$ cd Desktop/Project
shivam@shivam:~/Desktop/Project$ ls
flaskblog requirements.txt run.py venv
```

```
shivam@shivam:~/Desktop/Project$ python3 run.py
```

```
* Serving Flask app "flaskblog" (lazy loading)
* Environment: production
  WARNING: This is a development server. Do not use it in a
production deployment.
  Use a production WSGI server instead.
* Debug mode: on
* Running on http://127.0.0.1:8000/ (Press CTRL+C to quit)
* Restarting with stat
* Debugger is active!
* Debugger PIN: 166-528-598
```

# main.css

```
body {  
  background: #fafafa;  
  color: #333333;  
  margin-top: 5rem;  
}  
  
.dropbtn {  
  background-color: black;  
  color: white;  
  padding: 16px;  
  font-size: 16px;  
  border: none;  
}  
  
.dropdown {  
  position: relative;  
  display: inline-block;  
}  
  
.dropdown-content {  
  display: none;  
  position: absolute;  
  background-color: lightgrey;  
  min-width: 200px;  
  z-index: 1;  
}  
  
.dropdown-content a {  
  color: black;  
  padding: 12px 16px;  
  text-decoration: none;  
  display: block;  
}
```

```
.dropdown-content a:hover {background-color: white;}  
.dropdown:hover .dropdown-content {display: block;}  
.dropdown:hover .dropbtn {background-color: grey;}
```

```
h1, h2, h3, h4, h5, h6 {  
  color: #444444;  
}
```

```
.bg-steel {  
  background-color: #5f788a;  
}
```

```
.site-header .navbar-nav .nav-link {  
  color: #0d1418;  
}
```

```
.site-header .navbar-nav .nav-link:hover {  
  color: #13b9e2;  
}
```

```
.site-header .navbar-nav .nav-link.active {  
  font-weight: 500;  
}
```

```
.content-section {  
  background: #ffffff;  
  padding: 10px 20px;  
  border: 1px solid #dddddd;  
  border-radius: 3px;  
  margin-bottom: 20px;  
}
```

```
.fot {
```



```
color: #cbd5db;
}

.fotlink {
color: #cbd5db;
}

.fotlink.active {
font-weight: 500;
}

.fotlink: hover {
color: #ffffff;
}

img {
width: 65px;
height: 40px;
}
```

# contact.html

```
{% extends "layout.html" %}
{% block content %}
<div class="content-section">
  <h1>Contact Us</h1>
  <iframe
src="https://docs.google.com/forms/d/e/1FAIpQLSe5ccWKl5km2k3UnFwsJG241SfFmX
4nOYDENfuVr2kPO9rzmA/viewform?embedded=true" width="640" height="1500"
frameborder="0" marginheight="0" marginwidth="0">Loading...</iframe>
  <script type="text/javascript"
src="//s7.addthis.com/js/300/addthis_widget.js#pubid=ra-5f2f002cc1d2f963"></script>

</div>
{% endblock content %}
```

# covid.html

```
{% extends "layout.html" %}
{% block content %}
<div class="content-section">
  <legend class="border-bottom mb-4">COVID19</legend>
  Total COVID19 Cases Today in India : <b>{{ Totall_Cases }}</b>

</div>
{% endblock content %}
```

# email.html

```
{% extends "layout.html" %}
{% block content %}
<div class="content-section">
  <form method="POST" action="">
    {{ form.hidden_tag() }}
    <fieldset class="form-group">
      <legend class="border-bottom mb-4">{{ legend }}</legend>
      <div class="form-group">
        {{ form.email.label(class="form-control-label") }}
        {{ form.email(class="form-control form-control-lg") }}
      </div>
    </fieldset>
    <div class="form-group">
      {{ form.Next(class="btn btn-outline-info") }}
    </div>
  </form>
</div>
{% endblock content %}
```

# home.html

```
{% extends "layout.html" %}
{% block content %}
<div class='content-section'>
<h1>About Project</h1>
<div class='content-section'>
<p>Hi It is Shivam From Class 12, Ch Balbir Singh Public School
  I have created a Multipurpose Website in which we can see a
  Weather of a city, Total COVID cases of India, Send Emails and
  verify mobile numbers
<br>
<br>

  This Project is Made using Python Flask Framework, HTML, CSS and Bootstrap
  and Some API's
<br>
<br>
  For Making this Project I have taken Help from
  Python Documentation, StackOverflow, w3schools,
  youtube, rapidAPI
<br>
<br>
  Whole Code of this Project is Stored on my
  <a class='folink nav-link' href="https://github.com/shivam907/school"
target="_blank" rel="noopener noreferrer">Github Repository</a>
</p>
</div>
</div>
{% endblock content %}
```

# layout.html

```
<!DOCTYPE html>
<html>

<head>
  <link rel="icon" href="{{ url_for('static', filename='pics/' + 'cez.png') }}"
type="image/x-icon">
  <!-- Required meta tags -->
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1,
shrink-to-fit=no">

  <!-- Bootstrap CSS -->
  <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/bootstrap.min.css"
integrity="sha384-Gn5384xqQ1aoWXA+058RXPxPg6fy4IWvTNh0E263XmFcJlSAwiGg
FAW/dAiS6JXm" crossorigin="anonymous">

  <link rel="stylesheet" type="text/css" href="{{ url_for('static', filename='main.css') }}">
  {% if title %}
  <title>CEZ - {{ title }}</title>
  {% else %}
  <title> CEZ</title>
  {% endif %}
</head>

<body>
  <header class="site-header">
    <nav class="navbar navbar-expand-md navbar-dark bg-steel fixed-top">
      <div class="container">
        <button class="navbar-toggler" type="button" data-toggle="collapse"
data-target="#navbarToggle" aria-controls="navbarToggle" aria-expanded="false"
aria-label="Toggle navigation">
          <span class="navbar-toggler-icon"></span>
        </button>
        <div class="collapse navbar-collapse" id="navbarToggle">
          <div class="navbar-nav mr-auto"><a class="navbar-brand mr-4" href="/">
            </img>C E Z</a>
          </div>
```

```

        <div class="dropdown">
            <button class="btn dropdown-toggle" type="button"
data-toggle="dropdown">Menu</button>
            <ul class="dropdown-menu">
                <li><a class="nav-item nav-link" href="{{ url_for('home')
}}">Home</a></li>
                <li><a class="nav-item nav-link" href="{{ url_for('contact')
}}">Contact</a></li>
                <li><a class="nav-item nav-link" href="{{ url_for('covid')
}}">COVID</a></li>
            </ul>
        </div>
        <!-- Navbar Right Side -->
        <div class="navbar-nav">
            <div class="dropdown">
                <button class="btn btn-link dropdown-toggle" type="button"
data-toggle="dropdown">
                </button>
                <ul class="dropdown-menu">
                    <li><a class="nav-item nav-link" href="{{ url_for('verify_mob') }}">Verify
Mobile</a></li>
                    <li><a class="nav-item nav-link" href="{{ url_for('semail') }}">Send
Email</a></li>
                    <li><a class="nav-item nav-link" href="{{ url_for('check_weather')
}}">Check Weather</a></li>
                </ul>
            </div>
        </div>
    </div>
</nav>
</header>
<main role="main" class="container">
    <div class="row">
        <div class="col-md-8">
            {% with messages = get_flashed_messages(with_categories=true) %} {% if
messages %} {% for category, message in messages %}
                <div class="alert alert-{{ category }}">
                    {{ message }}
                </div>
            {% endfor %} {% endif %} {% endwith %} {% block content %}{% endblock %}
        </div>
    </div>

```

```
<div class="col-md-4">
  <div class="content-section">
    <h3>My Profiles</h3><br>
    <p class='text-muted'>
      <ul class="list-group">
        <li class="list-group-item list-group-item-light"><a class='folink
nav-link' href="https://www.youtube.com/creativeexpertz" target="_blank"
rel="noopener noreferrer">My Channel</a></li>
        <li class="list-group-item list-group-item-light"><a class='folink
nav-link' href="https://github.com/shivam907" target="_blank" rel="noopener
noreferrer">My Github</a></li>
        <li class="list-group-item list-group-item-light"><a class='folink
nav-link' href="https://cez.co.in" target="_blank" rel="noopener noreferrer">My
Website</a></li>
        <li class="list-group-item list-group-item-light"><a class='folink
nav-link' href="https://techiecoder.com" target="_blank" rel="noopener
noreferrer">Second Website</a></li>
      </ul>
    </p>
    <br>
    <p class='text-muted'>
      <h3>Contact us</h3><br>
      <ul class="list-group">
        <li class="list-group-item list-group-item-light"><a class='folink
nav-link' href="{{ url_for('contact') }}" target="_blank" rel="noopener
noreferrer">Submit Query</a></li>
        <li class="list-group-item list-group-item-light"><a class='folink
nav-link' href="http://wa.me/918146159929" target="_blank" rel="noopener
noreferrer">Whatsapp</a></li>
        <li class="list-group-item list-group-item-light"><a class='folink
nav-link' href="mailto:shivam@ceziot.com" target="_blank" rel="noopener
noreferrer">Email</a></li>
        <li class="list-group-item list-group-item-light"><a class='folink
nav-link' href="https://instagram.com/creativeexpertz" target="_blank" rel="noopener
noreferrer">Instagram</a></li>
      </ul>
    </p>
  </div>
</div>
</main>
<br>
<br>
```



```
<br>

<!-- FOOTER -->
  <footer class="page-footer font-small blue" style="background-color: #5f788a">
    <div class="footer-copyright text-center py-3 fot">© 2021 Copyright:
      <a class="fotlink" href="https://ceziot.com/" target="_blank" rel="noopener
norereferrer"> C E Z </a>
    </div>
  </footer>
<!-- FOOTER -->

<!-- BOOTSTRAP -->
  <script src="https://code.jquery.com/jquery-3.2.1.slim.min.js"
integrity="sha384-KJ3o2DKtIkvYIK3UENzmM7KCKRr/rE9/Qpg6aAZGJwFDMVNA/GpG
FF93hXpG5KkN" crossorigin="anonymous"></script>
  <script
src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.12.9/umd/popper.min.js"
integrity="sha384-ApNbgh9B+Y1QKtv3Rn7W3mgPxhU9K/ScQsAP7hUibX39j7fakFPsk
vXusvfa0b4Q" crossorigin="anonymous"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/js/bootstrap.min.js"
integrity="sha384-JZR6Spejh4U02d8jOt6vLEHfe/JQGiRRSQQxSfFWpi1MquVdAyjUar5
+76PVCmYI" crossorigin="anonymous"></script>
<!-- BOOTSTRAP -->

</body>
</html>
```

# mob.html

```
{% extends "layout.html" %}
{% block content %}
<div class="content-section">
  <form method="POST" action="">
    {{ form1.hidden_tag() }}
    <fieldset class="form-group">
      <legend class="border-bottom mb-4">Verify Mobile Number</legend>
      <div class="form-group">
        {{ form1.mob.label(class="form-control-label") }}
        {{ form1.mob(class="form-control form-control-lg") }}
      </div>
    </fieldset>
    <div class="form-group">
      {{ form1.send(class="btn btn-outline-info") }}<br><br>
    </div>
  </form>
</div>
{% endblock content %}
```

# send.html

```
{% extends "layout.html" %}
{% block content %}
<div class="content-section">
  <form method="POST" action="">
    {{ form.hidden_tag() }}
    <fieldset class="form-group">
      <legend class="border-bottom mb-4">{{ legend }}</legend>
      <div class="form-group">
        {{ form.subject.label(class="form-control-label") }}
        {{ form.subject(class="form-control form-control-lg") }}
      </div>
      <div class="form-group">
        {{ form.content.label(class="form-control-label") }}
        {{ form.content(class="form-control form-control-lg") }}
      </div>
    </fieldset>
    <div class="form-group">
      {{ form.send(class="btn btn-outline-info") }}<br><br>
    </div>
  </form>
</div>
{% endblock content %}
```

# verify.html

```
{% extends "layout.html" %}
{% block content %}
<div class="content-section">
  <form method="POST" action="">
    {{ form2.hidden_tag() }}
    <fieldset class="form-group">
      <div class="form-group">
        {{ form2.code.label(class="form-control-label") }}
        {{ form2.code(class="form-control form-control-lg") }}
      </div>
    </fieldset>
    <div class="form-group">
      {{ form2.submit(class="btn btn-outline-info") }}<br><br>
    </div>
  </form>
</div>
{% endblock content %}
```

# weather.html

```
{% extends "layout.html" %}
{% block content %}
<div class="content-section">
  <form method="POST" action="">
    {{ form.hidden_tag() }}
    <fieldset class="form-group">
      <legend class="border-bottom mb-4">{{ legend }}</legend>
      <div class="form-group">
        {{ form.city.label(class="form-control-label") }}
        {{ form.city(class="form-control form-control-lg") }}
      </div>
    </fieldset>
    <div class="form-group">
      {{ form.submit(class="btn btn-outline-info") }}<br><br>
      <legend class="border-bottom mb-4">Temperature at <b>{{city}}</b> is <b>{{ c
}}°C</b></legend>
    </div>
  </form>
</div>
{% endblock content %}
```

## `_init_.py`

```
import os
from flask import Flask
from flask_mail import Mail

app = Flask(__name__)
app.config['SECRET_KEY'] = 'CEZ'
app.config['MAIL_SERVER'] = 'smtp.googlemail.com'
app.config['MAIL_PORT'] = 587
app.config['MAIL_USE_TLS'] = True
app.config['MAIL_USERNAME'] = 'cezlogin@gmail.com' #Email ID
app.config['MAIL_PASSWORD'] = 'creativeexpertz' #Email Account Password
mail = Mail(app)
from flaskblog import routes
```

# forms.py

```
from flask_wtf import FlaskForm
from wtforms import StringField, SubmitField
from wtforms.validators import DataRequired, Email

class weather(FlaskForm):
    city = StringField('Enter City', validators=[DataRequired()])
    submit = SubmitField(' Check ')

class send_otp(FlaskForm):
    mob = StringField('Mobile Number', validators=[DataRequired()])
    send = SubmitField('Send Code')

class verify(FlaskForm):
    code = StringField('Enter 6 Digit Code', validators=[DataRequired()])
    submit = SubmitField('Verify')

class email(FlaskForm):
    email = StringField("Enter Recipient", validators=[DataRequired()])
    Next = SubmitField('Next')

class send(FlaskForm):
    subject = StringField("Enter Subject", validators=[DataRequired()])
    content = StringField("Enter Content", validators=[DataRequired()])
    send = SubmitField("Send")
```

# routes.py

```
import json
import math
import os
import urllib.request
import requests
from flask_mail import Message
from flask import abort, render_template, request, url_for, flash, redirect
from flaskblog import app, mail
from flaskblog.forms import weather, send_otp, verify, email, send

@app.route("/")
@app.route("/about")
def home():
    return render_template('home.html')

@app.route("/weather", methods=['GET', 'POST'])
def check_weather():
    temp=0
    city=""
    form = weather()
    if form.validate_on_submit():
        city=form.city.data

        api="c445762544df62f5dc5ccf510d289aea"
        source =
urllib.request.urlopen('http://api.openweathermap.org/data/2.5/weather?q={}&appid={
}'.format(city, api)).read()
        temp = round(json.loads(source)['main']['temp']-273.15)

    return render_template('weather.html', title='Weather',
                           form=form, legend='Check Temperature', c=temp, city=city.capitalize())
```



```

@app.route("/covid", methods=['GET', 'POST'])
def covid():
    url = "https://api.covid19india.org/data.json"
    r = requests.request('GET', url)
    d = r.json()
    b=d['cases_time_series']
    a=len(b)
    return render_template('covid.html', title='COVID19',
Total_Cases=b[a-1]['totalconfirmed'])

@app.route("/contact")
def contact():
    return render_template('contact.html', title='Contact Us')

def send_code(mobile_no):
    url = "https://d7-verify.p.rapidapi.com/send"

    payload = "{  \"expiry\": 900,  \"message\": \"Enter {code} to Verify Your Mobile
Number -CEZ\",  \"mobile\": \"+mobile_no+\",  \"sender_id\": \"CEZ\"}"
    headers = {
        'content-type': "application/json",
        'authorization': "Token 7404642da966fe2cc0647def4bccab699b19d0c7",
        'x-rapidapi-key': "f61787f699mshf9480a998340f9ep13c50djsndfc6e2954a95",
        'x-rapidapi-host': "d7-verify.p.rapidapi.com"
    }

    response = requests.request("POST", url, data=payload, headers=headers).json()
    otp_id = response["otp_id"]
    return otp_id

def verify_code(otp, otp_id):
    url = "https://d7-verify.p.rapidapi.com/verify"
    payload = "{  \"otp_code\": \"\"+otp+\"\",  \"otp_id\": \"\"+otp_id+\"\"}"

```

```

headers = {
    'content-type': "application/json",
    'authorization': "Token 7404642da966fe2cc0647def4bccab699b19d0c7",
    'x-rapidapi-key': "f61787f699mshf9480a998340f9ep13c50djsndfc6e2954a95",
    'x-rapidapi-host': "d7-verify.p.rapidapi.com"
}
response = requests.request("POST", url, data=payload, headers=headers).json()
if 'status' in response:
    if response['status']=='success':
        return True
    else:
        return False
else:
    return False

@app.route("/verify", methods=['GET', 'POST'])
def verify_mob():
    form1 = send_otp()
    if form1.validate_on_submit():
        mob = form1.mob.data
        print("OTP SENT Successfully")
        otp_id = send_code("91"+str(mob))
        flash("OTP Sent", 'success')
        return redirect('/verify/Code/'+otp_id)
    return render_template('mob.html', title='Verify Mobile Number', form1=form1)

@app.route("/verify/Code/<string:otp_id>", methods=['GET', 'POST'])
def verify_otp(otp_id):
    form2 = verify()
    if form2.validate_on_submit():
        code = form2.code.data
        if verify_code(code, otp_id):
            flash("Your Code is Verified", 'success')

```

```

    else:
        flash("Invalid Code", 'danger')

    return render_template('verify.html', title='Verify Code', form2=form2)

def verify_email_for_valid(email):
    url = "https://api.zerobounce.net/v2/validate"
    api_key = "ee3824f3492549a4bfaa9133987ac28c"
    ip_address = "99.123.12.122" #ip_address can be blank

    params = {"email": email, "api_key": api_key, "ip_address": ip_address}

    response = requests.get(url, params=params)
    return json.loads(response.content)['status']

@app.route("/Send_Email", methods=['GET', 'POST'])
def semail():
    form = email()
    if form.validate_on_submit():
        email_id = form.email.data
        if verify_email_for_valid(email_id)=='valid':
            return redirect("/Send_Email/{}".format(email_id))
        else:
            flash("Email Entered is Not Valid", 'danger')

    return render_template('email.html', title='Enter Email', form=form)

def send_mail(to, subject, content):
    msg = Message(subject, sender='CEZ', recipients=[to])
    msg.body = content
    mail.send(msg)

@app.route("/Send_Email/<string:email_id>", methods=['GET', 'POST'])
def send_emailto(email_id):

```

```
form = send()
if form.validate_on_submit():
    subject = form.subject.data
    content = form.content.data
    send_mail(email_id, subject, content)
    flash("Email Sent", 'success')
    return redirect('home')

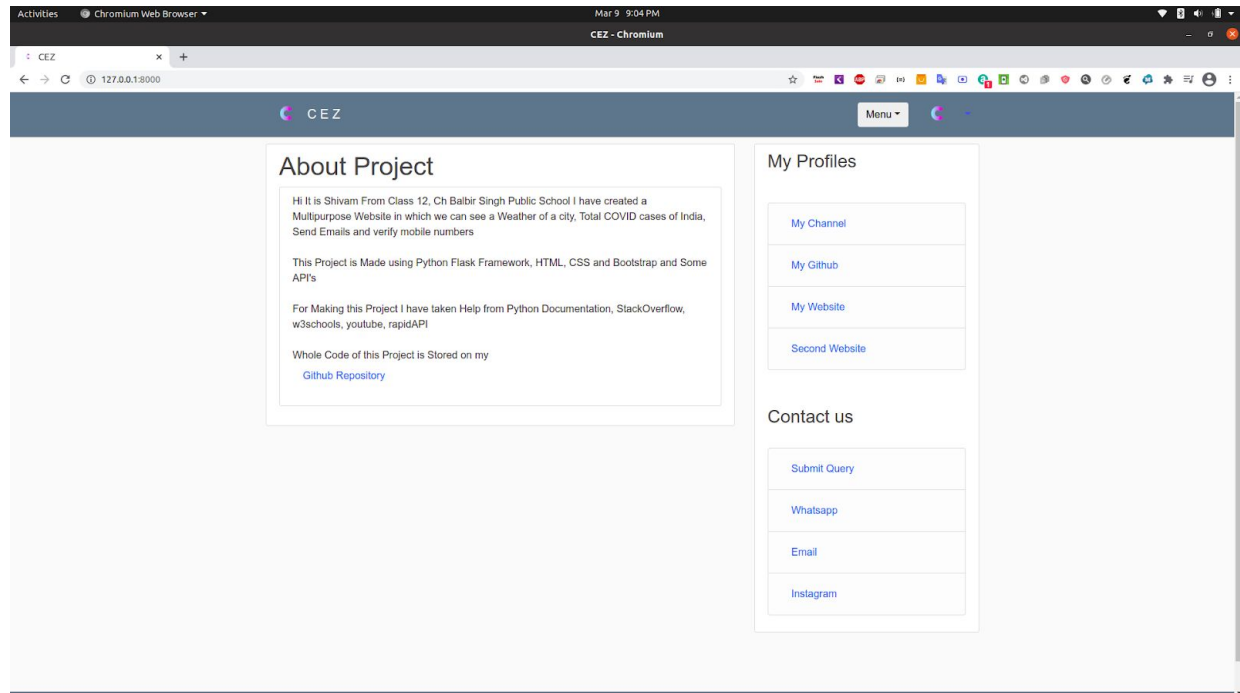
return render_template('send.html', title="Send Email", form=form)
```

# run.py

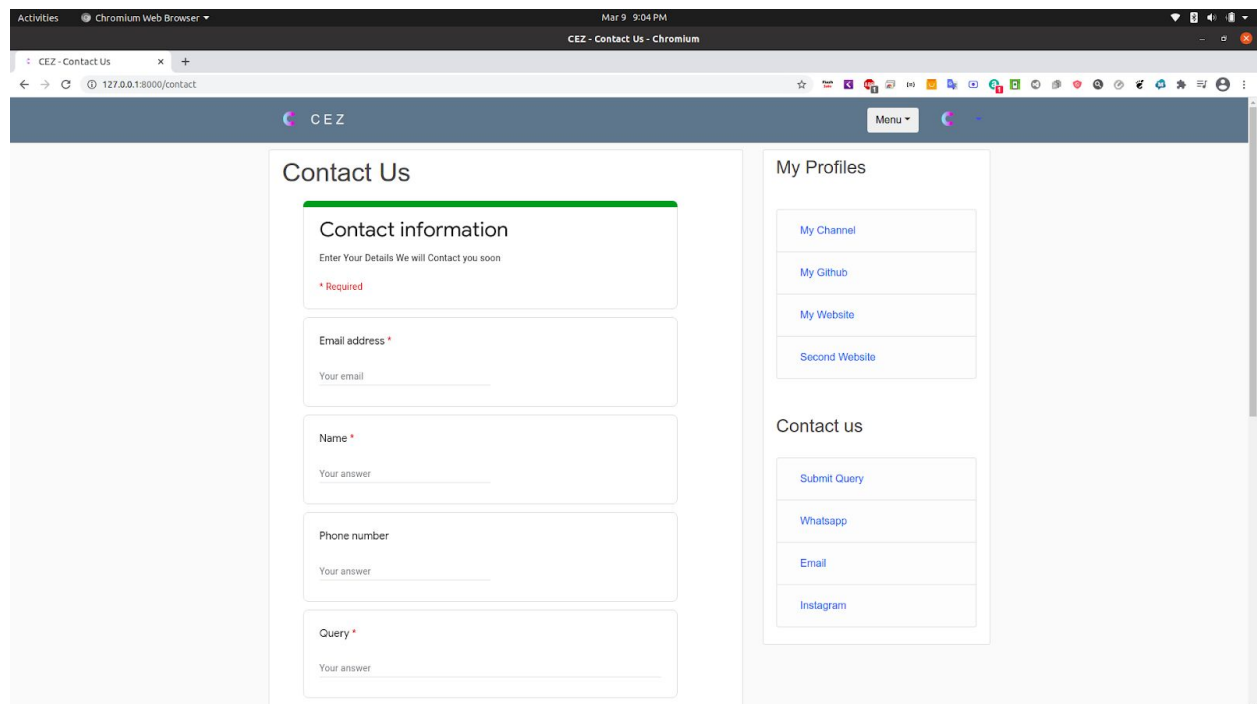
```
from flaskblog import app

if __name__ == '__main__':
    app.run(debug=True, port=8000)
```

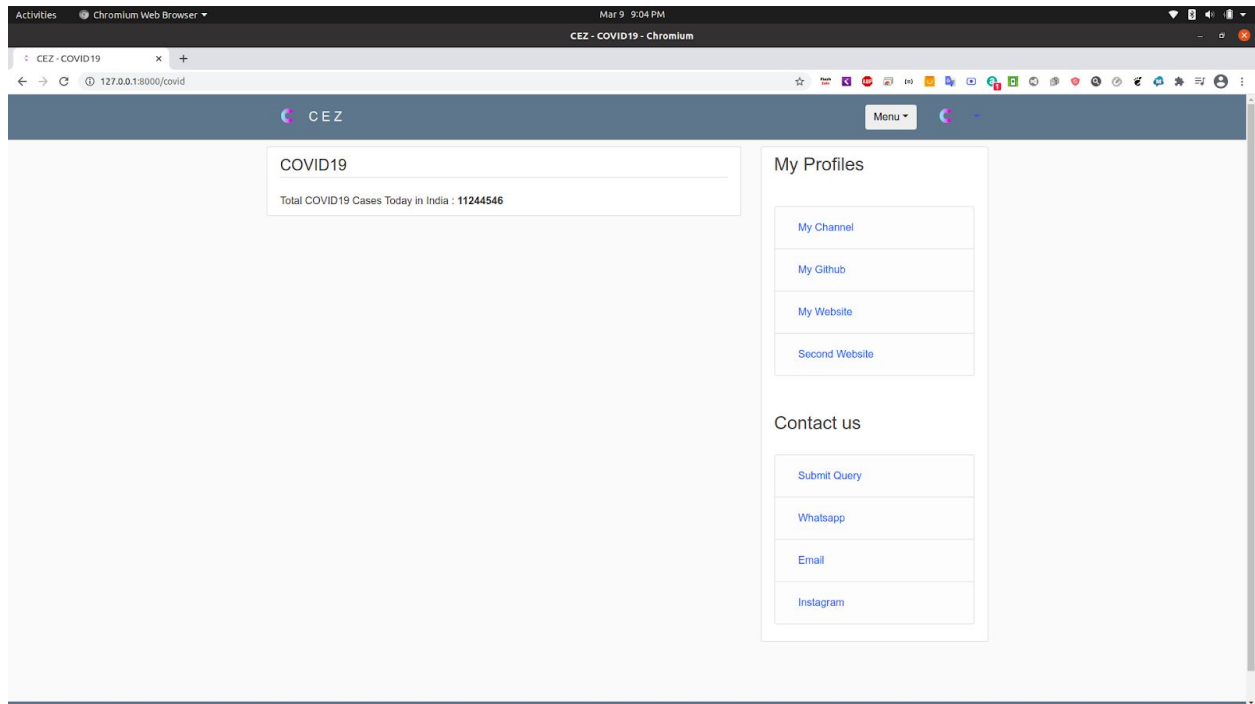
# OUTPUTS



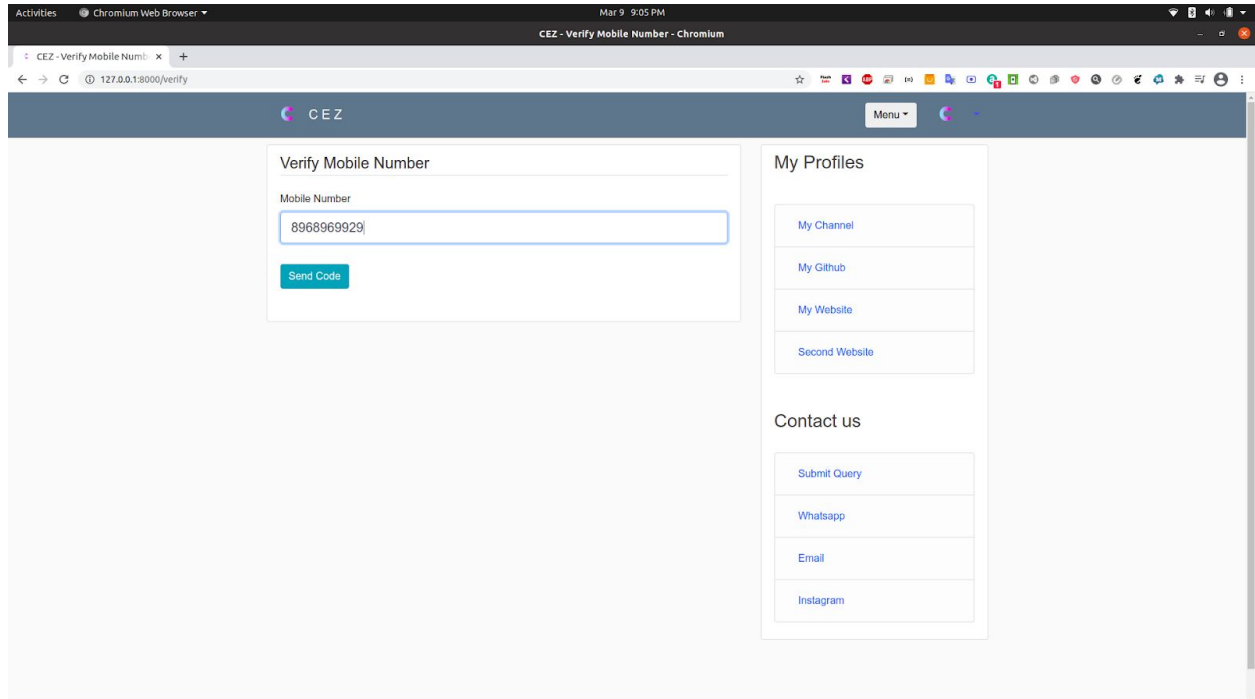
## Home Page



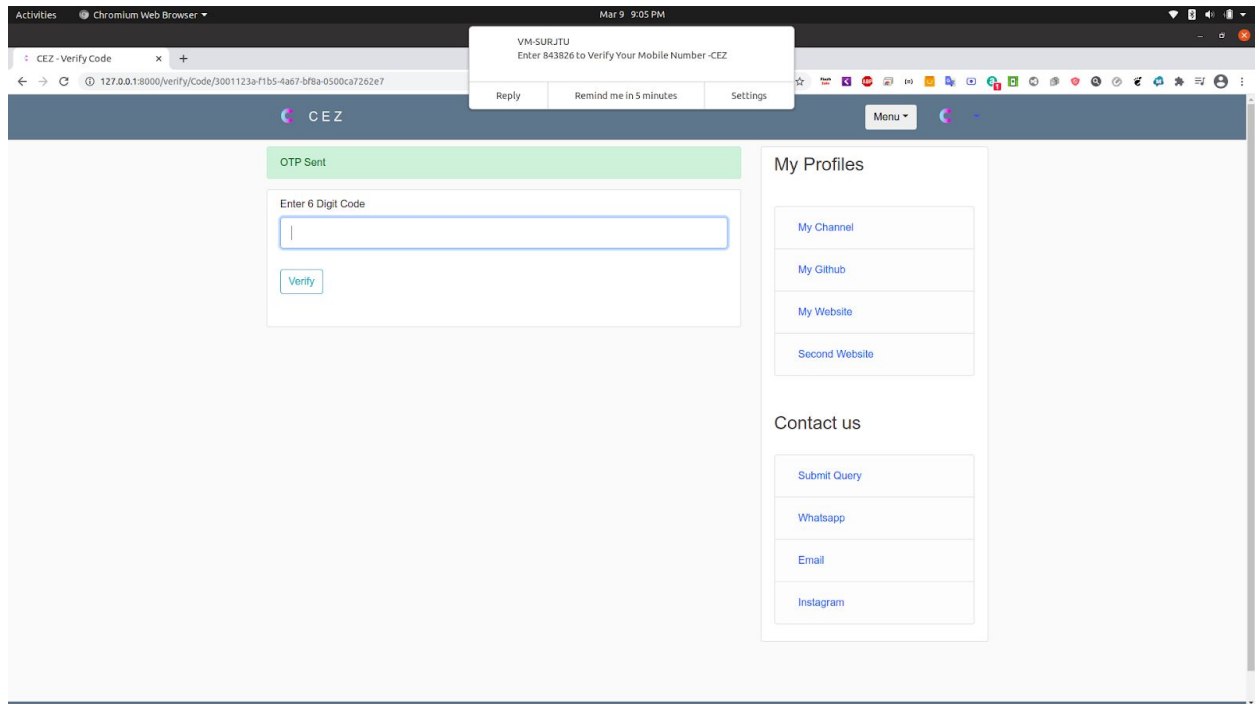
## Contact Page



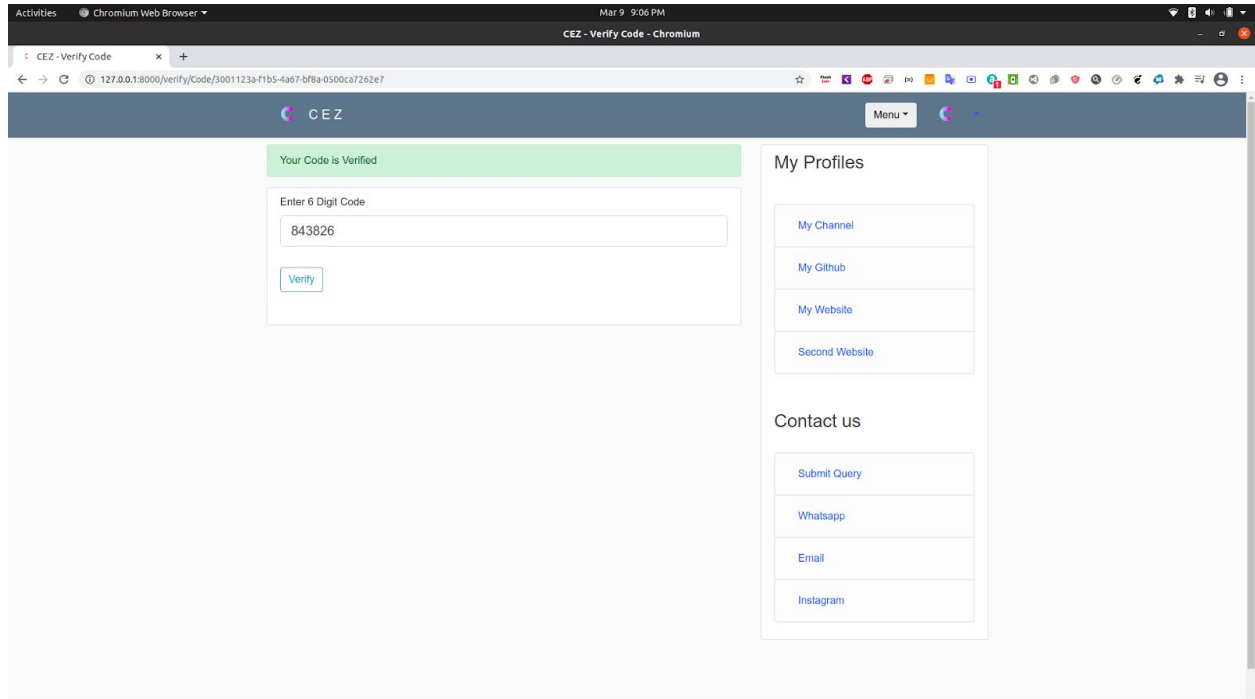
## COVID19 Page



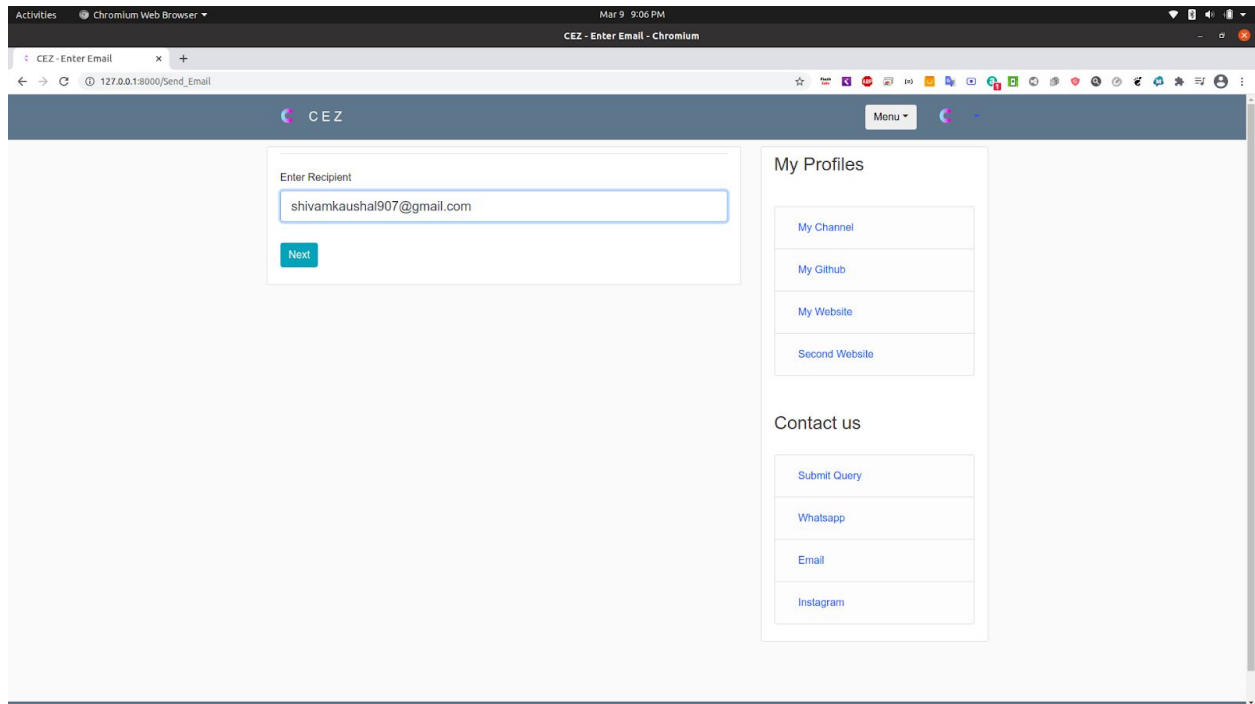
## Mobile Verification Page



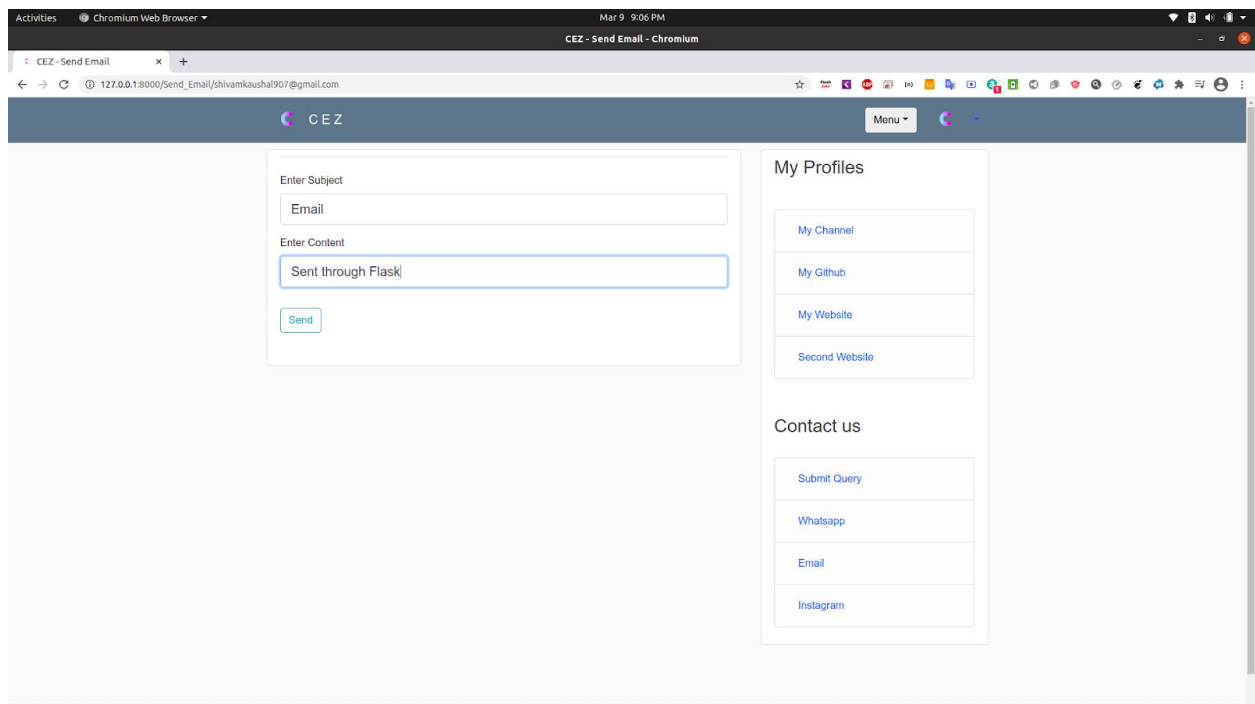
## OTP Verifying Page



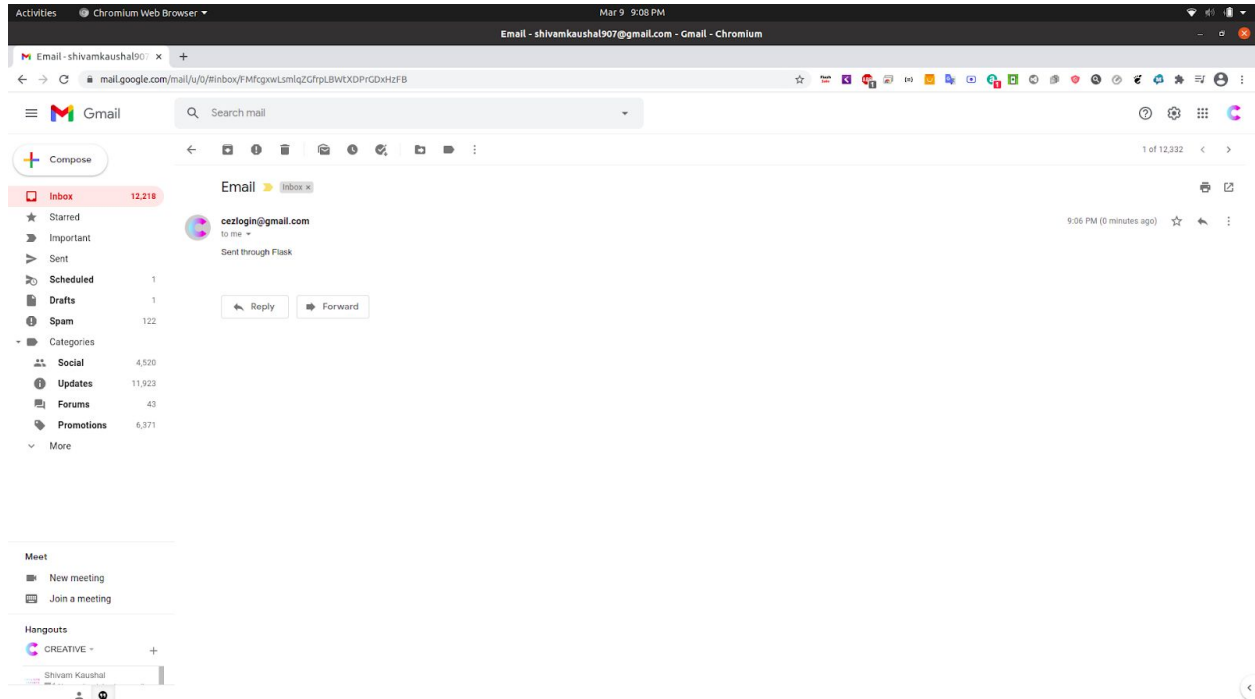
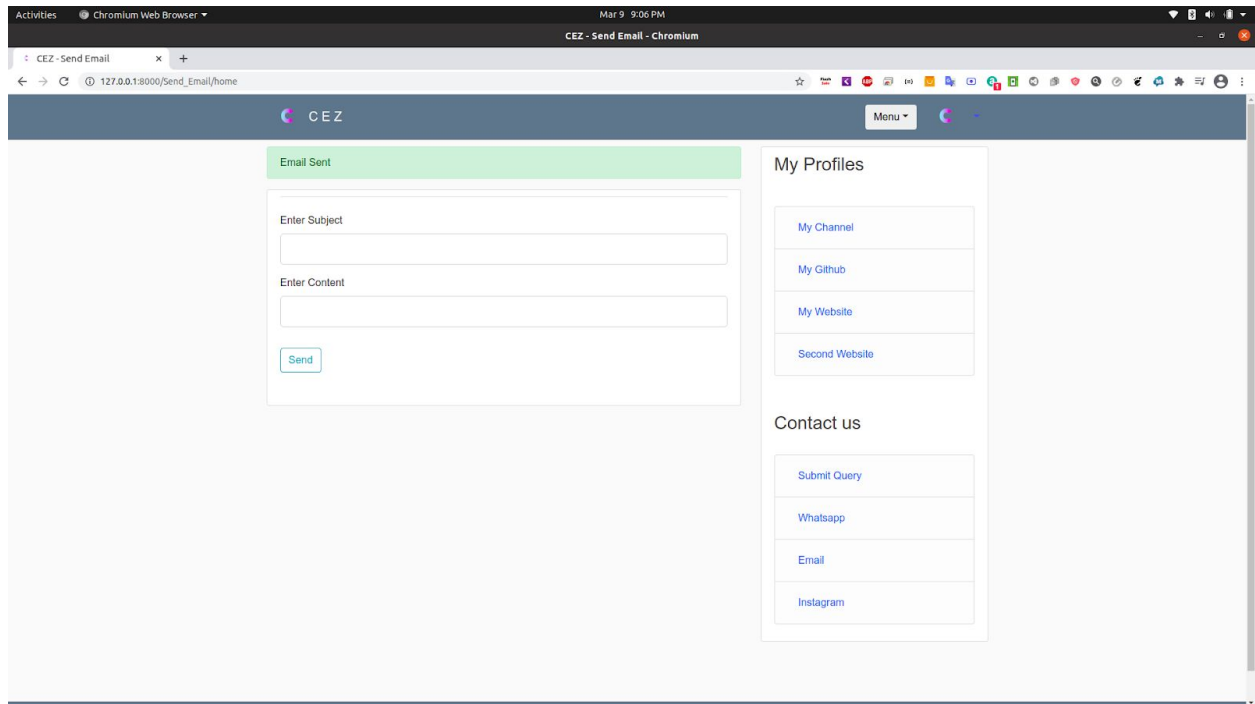




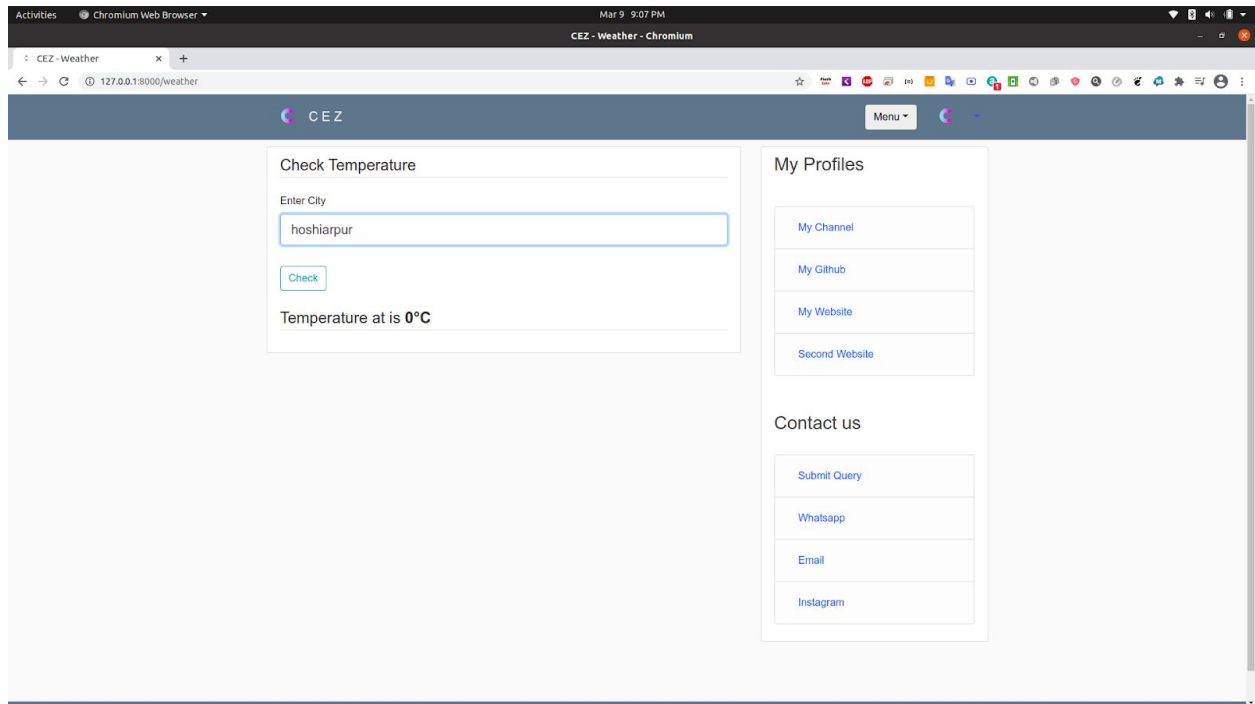
Email Entering Page



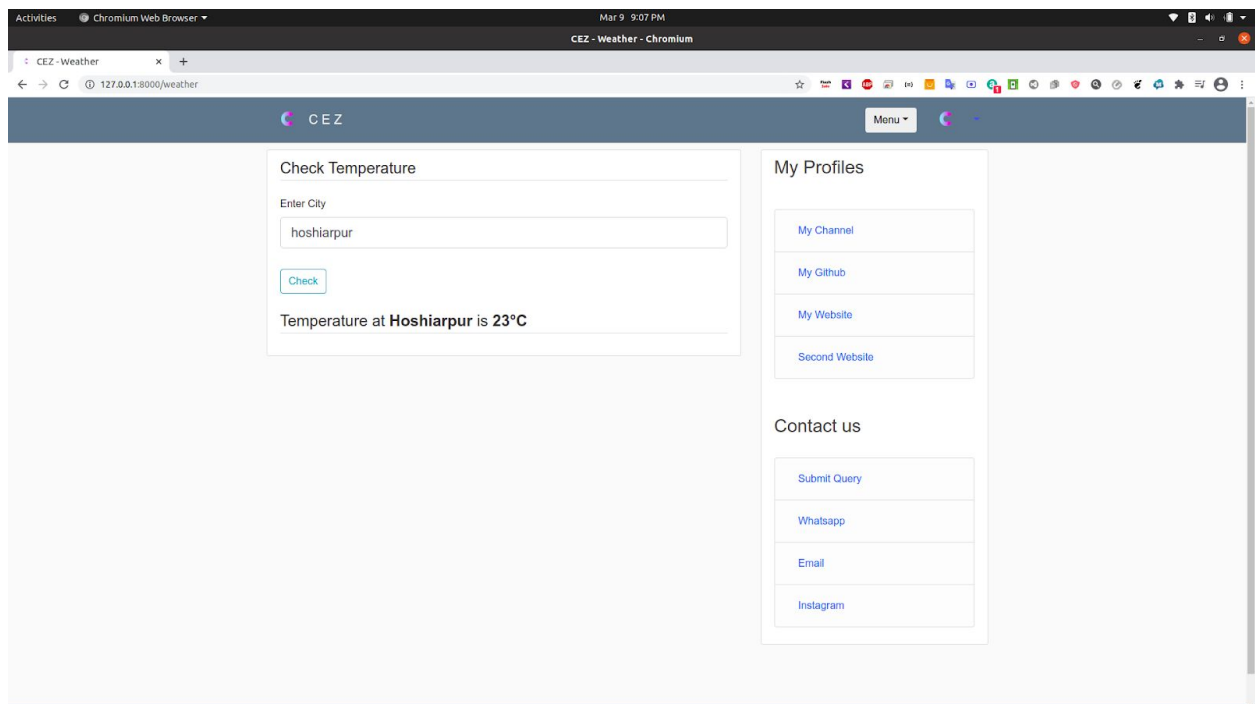
Subject and Content Entering Page



Email Received



## Weather Checking Page



## Weather Checked

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