

SPRINT 1

db.py

```
from pymongo import MongoClient, cursor

CONNECTION_STRING = "mongodb://127.0.0.1:27017/"
client = MongoClient(CONNECTION_STRING)
mydb = client['user']
information = mydb.userinformation

def check_ifavailable(email):
    query={'email':email}
    a = information.find(query)
    l=0
    for i in a:
        print(i)
        l=l+1
    if(l==0):
        return 1
    else:
        return 0

def insert_database(name,email,password):

    records = {
        'name':name,
        'email':email,
        'password':password
    }
    information.insert_one(records)

def check_for_password(email):
    query={'email':email}
    a = information.find(query)
    t = ""
    for i in a:
        t = i['password']
    if(t==""):
        return 0
    else:
        return t

def get_username(email):
    query={'email':email}
    a = information.find(query)
    t = ""
    for i in a:
        t = i['name']
    return t
```

login.css

```
@import url(https://fonts.googleapis.com/css?family=Raleway:300,400,600);
```

```
body{  
  margin: 0;  
  font-size: .9rem;  
  font-weight: 400;  
  line-height: 1.6;  
  color: #212529;  
  text-align: left;  
  background-color: #f5f8fa;  
}
```

```
.my-form  
{  
  padding-top: 1.5rem;  
  padding-bottom: 1.5rem;  
}
```

```
.my-form .row  
{  
  margin-left: 0;  
  margin-right: 0;  
}
```

```
.login-form  
{  
  padding-top: 1.5rem;  
  padding-bottom: 1.5rem;  
}
```

```
.login-form .row  
{  
  margin-left: 0;  
  margin-right: 0;  
}
```

register.js

```
function onChange() {  
    const password = document.querySelector('input[name=password]');  
    const confirm = document.querySelector('input[name=repassword]');  
    if (confirm.value === password.value) {  
        confirm.setCustomValidity("");  
    } else {  
        confirm.setCustomValidity('Passwords do not match');  
    }  
}
```

time.js

```
setInterval(myTimer);
```

```
function myTimer() {  
    const d = new Date();  
    document.getElementById("time").innerHTML = d.toLocaleTimeString();  
}
```

date.js

```
setInterval(myTimer);
```

```
function myTimer() {  
    const d = new Date();  
    document.getElementById("time").innerHTML = d.toLocaleTimeString();  
}
```

app.py

```
from flask import Flask, render_template, url_for, request, session, redirect
import random
import smtplib
import db
import numpy as np
import pickle
import joblib
import time
import pandas
import os
import warnings
warnings.filterwarnings('ignore')

app = Flask(__name__)
app.secret_key = 'RainfallPrediction'
model = pickle.load(open("models/model.pkl", "rb"))
scaler = pickle.load(open("models/scaler.pkl", "rb"))

@app.route('/login')
def login():
    return render_template('login.html')

@app.route('/prediction_Data')
def predictToday():
    return render_template('prediction_Data.html')

@app.route('/profile')
def profile():
    return render_template('profile.html', name = session['realname'], email =
session['realemail'])

@app.route('/register')
def register():
    return render_template('register.html')

@app.route('/forgetpassword')
def forgetpassword():
    return render_template('forgetpassword.html')

@app.route('/resulttoday')
def resulttoday():
    return render_template('resultYes.html')
```

```

@app.route('/verify',methods=['POST'])
def verify():
    otp = "".join([str(random.randint(0,9)) for i in range(4)])
    session['current_otp']=otp
    name=request.form['name']
    email=request.form['email']
    password = request.form['password']
    session['user']=name
    session['email']=email
    session['password']=password
    datacheck = db.check_ifavailable(email)
    print(datacheck)
    if(datacheck==1):
        server = smtplib.SMTP('smtp.gmail.com',587)
        server.starttls()
        server.login('rainfallpproject@gmail.com','ikqqssrlvqnjutgu')
        message = "Your OTP for the site is : "+otp
        message = 'Subject: {} \n \n {}'.format("Rainfall Prediction", message)
        server.sendmail('rainfallpproject@gmail.com',email,message)
        server.quit()
        return render_template('verify.html')
    else:
        return '<script> alert("You are registering again so PLEASE LOGIN ");
window.location.href="/login";</script>'
@app.route('/validate',methods=['POST'])
def validate():
    user_otp=request.form['otp']
    otp = session['current_otp']
    if otp==(user_otp):
        db.insert_database(session['user'],session['email'],session['password'])
        return '<script> alert("Registration SUCCESSFULL login");
window.location.href="/login";</script>'
        return '<script> alert("Mismatchh OTP Try Again");</script>'+render_template('verify.html')
@app.route('/sendpassword',methods=['POST'] )
def sendpassword():
    email=request.form['email']
    password = db.check_for_password(email)
    if(password==0):
        return '<script> alert("There is no such email registered \'SORRY\'");
window.location.href="/login";</script>'
    else:
        server = smtplib.SMTP('smtp.gmail.com',587)
        server.starttls()
        server.login('rainfallpproject@gmail.com','ikqqssrlvqnjutgu')
        message = "Your PASSWORD for the site is : "+password
        message = 'Subject: {} \n \n {}'.format("Rainfall Prediction(Forget Password",
message)

```

```

        server.sendmail('rainfallpproject@gmail.com',email,message)
        server.quit()
        return '<script> alert("Please Check your mail for Password");
window.location.href="/login";</script>'
@app.route('/userlogin',methods=['POST'])
def userlogin():
    email=request.form['email']
    password=request.form['password']

    checkava = db.check_ifavailable(email)
    if(checkava==0):
        realpassword = db.check_for_password(email)
        if(realpassword==password):
            session['realemail'] = email
            session['realname'] = db.get_username(email)
            return '<script> window.location.href="/profile";</script>'
        else:
            return '<script> alert("Invalid Passsword");
window.location.href="/login";</script>'
        else:
            return '<script> alert("There is no such user Please check your email or
Register"); window.location.href="/login";</script>'

@app.route('/predict', methods=["POST"])
def predict():
    column_names = ['MinTemp', 'MaxTemp', 'Rainfall', 'WindGustSpeed',
'WindSpeed9am',
    'WindSpeed3pm', 'Humidity9am', 'Humidity3pm', 'Pressure9am',
    'Pressure3pm', 'Temp9am', 'Temp3pm', 'WindGustDir',
    'WindDir9am', 'WindDir3pm']

    feature_values = [int(request.values.get(name)) for name in column_names]
    print(f"input: {feature_values}")
    feature_values = [np.array(feature_values)]
    data = pandas.DataFrame(feature_values, columns=[column_names])
    data = scaler.fit_transform(data)
    data = pandas.DataFrame(data, columns=[column_names])
    prediction = model.predict(data)
    print(f"prediction: {prediction}")
    if (prediction == 0):
        return render_template("resultNo.html")
    else:
        return render_template("resultYes.html")

if __name__ == '__main__':
    app.run(debug=True)

```

login.html

```
<!doctype html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
  <link rel="dns-prefetch" href="https://fonts.gstatic.com">
  <link href="https://fonts.googleapis.com/css?family=Raleway:300,400,600" rel="stylesheet" type="text/css">
  <link rel="stylesheet" href="static/css/login.css">
  <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.1.3/css/bootstrap.min.css">
  <title>Login</title>
</head>
<body>
<main class="login-form">
  <div class="container-fluid">
    <div class="row justify-content-center">
      <div class="col-md-8">
        <div class="card">
          <div class="card-header">

            <div class='row'><div class="col-md-6 col-sm-6 col-lg-6 font-weight-bold" ><b>RainFall Prediction System</b> </div>
              <div class="col-md-3 col-sm-3 col-lg-4" > Login </div>
              <div class="col-md-3 col-sm-3 col-lg-2 font-weight-light" ><em id="time"></em></div>
            </div></div>
          <div class="card-body">
            <form action="/userlogin" method="post">
              <div class="form-group row">
                <label for="username" class="col-md-4 col-form-label text-md-right">Email</label>
                <div class="col-md-6">
                  <input type="email" id="email" class="form-control" placeholder="email" name="email" required autofocus>
                </div>
              </div>
              <div class="form-group row">
                <label for="password" class="col-md-4 col-form-label text-md-right">Password</label>
                <div class="col-md-6">
                  <input type="password" id="password" class="form-control" name="password" placeholder="password" required>
                </div>
              </div>
              <script type="text/javascript" src="static/js/time.js"></script>
              <div class="col-md-6 offset-md-4">
                <button type="submit" class="btn btn-primary">
```

The screenshot displays a web browser window with the following details:

- Browser Tab:** Login
- Address Bar:** 127.0.0.1:5000/login
- Page Header:**
 - RainFall Prediction System
 - Login
 - 1:34:19 PM
- Login Form:**
 - Email:** goushikarun01@gmail.com
 - Password:** masked with dots (.....)
 - Buttons:** Login (blue), Register (text)

The screenshot displays a web browser window with the address bar showing '127.0.0.1:5000/login'. The page title is 'RainFall Prediction System'. The header section includes the title 'RainFall Prediction System', the word 'Login', and the current time '1:34:19 PM'. The main content area features a login form with an 'Email' field containing 'goushikarun01@gmail.com' and a 'Password' field with masked characters '*****'. Below the password field are two buttons: a blue 'Login' button and a grey 'Register' button.

register.html

```
<!doctype html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
  <link rel="dns-prefetch" href="https://fonts.gstatic.com">
  <link href="https://fonts.googleapis.com/css?family=Raleway:300,400,600"
rel="stylesheet" type="text/css">
  <link rel="stylesheet" href="static/css/login.css">
  <link rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.1.3/css/bootstrap.min.css">
  <title>Register</title>
</head>
<body>
<main class="login-form">
  <div class="cotainer">
    <div class="row justify-content-center">
      <div class="col-md-8">
        <div class="card">
          <div class="card-header">
            <div class='row'><div class="col-md-6 col-sm-6 col-lg-6 font-weight-
bold" ><b>RainFall Prediction System</b> </div>
              <div class="col-md-3 col-sm-3 col-lg-4" > Register </div>
              <div class="col-md-3 col-sm-3 col-lg-2 font-weight-light
" ><em id="time"></em></div>
            </div></div>
          <div class="card-body">
            <form action="/verify" method="post">
              <div class="form-group row">
                <label for="name" class="col-md-4 col-form-label text-md-
right">Username</label>
                <div class="col-md-6">
                  <input type="text" class="form-control" placeholder="only use
a-zA-Z@._ - " id="name" name="name" pattern="[a-zA-Z@._ - ]{1,}" required
autofocus>
                </div>
              </div>
              <div class="form-group row">
                <label for="email_address" class="col-md-4 col-form-label text-
md-right">Email</label>
                <div class="col-md-6">
                  <input type = "text" placeholder = "email" class="form-
control" id = "email" name="email" required pattern = "^([a-z0-9._%+-]+@[a-z0-9.-
]+\.[a-z]{2,3})|([6-9]{1}\d{9})$" />
                </div>
              </div>
            </form>
          </div>
        </div>
      </div>
    </div>
  </div>
</main>
</body>
</html>
```

```

    </div>

    <div class="form-group row">
        <label for="password" class="col-md-4 col-form-label text-md-
right">Password</label>
        <div class="col-md-6">
            <input type="password" id="password" class="form-control"
name="password" placeholder="password" pattern="[0-9a-zA-
Z@. ]{6,15}" onChange="onChange()" required>
        </div>
    </div>
    <div class="form-group row">
        <label for="repassword" class="col-md-4 col-form-label text-md-
right">Re-Password</label>
        <div class="col-md-6">
            <input type="password" id="repassword" class="form-control"
name="repassword" placeholder="re type password" pattern="[0-9a-zA-Z@. ]{6,15}"
onChange="onChange()" required>
        </div>
    </div>
    <script type="text/javascript" src="static/js/register.js"></script>
    <script type="text/javascript"
src="static/js/time.js"></script>

    <div class="col-md-6 offset-md-4">
        <button type="submit" class="btn btn-primary" >
            Get OTP
        </button>
        <a href="{{url_for('login')}}" class="btn btn-link">
            Cancel
        </a>
    </div>
</form>
</div>
</div>
</div>
</div>
</main>
</body>
</html>

```

Predict Rainfall

Enter the Details for Prediction

Temperature

MinTemp: 13, Temp9am: 16, Temp3pm: 21, MaxTemp: 22

Rainfall

Rainfall: 0

Wind Speed

WindSpeed9am: 20, WindSpeed3pm: 24, WindGustSpeed: 44

Humidity

Humidity9am: 71, Humidity3pm: 22

Pressure

Pressure9am: 1007, Pressure3pm: 1007

Wind Direction

WindDir9am: SSW, WindDir3pm: NNE, WindGustDir: N

Predict

verify.html

```
<!doctype html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
  <link rel="dns-prefetch" href="https://fonts.gstatic.com">
  <link href="https://fonts.googleapis.com/css?family=Raleway:300,400,600"
rel="stylesheet" type="text/css">
  <link rel="stylesheet" href="static/css/login.css">
  <link rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.1.3/css/bootstrap.min.css">
  <title>Verification</title>
  <script>
    var timer=setTimeout(function()
    {
      alert("'PAGE TIMEOUT' Please register again ")
      window.location="/register",30000);
    }
  </script>
</head>
<body>
<main class="login-form">
  <div class="cotainer">
    <div class="row justify-content-center">
      <div class="col-md-8">
        <div class="card">
          <div class="card-header">
            <div class='row'>
              <div class="col-md-9 col-sm-9 col-lg-10 font-weight-
bold" > Validation </div>
              <div class="col-md-3 col-sm-3 col-lg-2 font-weight-
light" ><em id="time"></em></div>
            </div>
          </div>
        </div>
      </div>
    </div>
  </div>
</main>
</body>
</html>
```

```
</div>
<div class="card-body">
  <form action="/validate" method="post">
    <label for="" class="col-md-8 col-form-label col-lg-8 ">OTP have
been sent to your email</label>
    <div class="form-group row">
      <label for="username" class="col-md-4 col-form-label text-md-
right">OTP</label>
      <div class="col-md-6">
        <input type="text" id="otp" class="form-control"
placeholder="enter otp" name="otp" required autofocus>
      </div>
    </div>
    <script type="text/javascript"
src="static/js/time.js"></script>
```

```
<div class="col-md-6 offset-md-4">  
    <button type="submit" class="btn btn-primary">  
        Verify  
    </button>  
    <a href="{{url_for('login')}}" class="btn btn-link">  
        Cancel  
    </a>  
</div>  
</div>  
</form>  
</div>  
</div>  
</div>  
</div>  
</div>
```

proile.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Profile</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.css"
rel="stylesheet">
  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/js/bootstrap.bundle.min.js"></
script>
  <style>
    .fakeimg1 {
      height: 200px;
      background-image: url("https://external-
content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.mm.bing.net%2Fth%3Fid%3
DOIP.Tmm5ZAbUxmWCSJ_-
MnT9fwHaE6%26pid%3DApi&f=1&ipt=20b903e3852661fee3bc06e45d80bddf9498
711864d11ffdd8ea009b5ec7fc61&ipto=images");
    }
    .fakeimg2 {
      height: 200px;
      background-image: url("https://external-
content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse1.mm.bing.net%2Fth%3Fid%3
DOIP.zzD5INXBnV2aysaS58XmoAHaE5%26pid%3DApi&f=1&ipt=e3d6d585da7e
4a0edd65b59c90b7829dbd4a7c2af1d13a745dea64e7cd3a8e24&ipto=images");
    }
    .sec1
    {
      background: rgb(152, 179, 180);
    }
    .sec2
    {
      background: rgb(142, 171, 173);
    }
  </style>
</head>
<body>

<div class="p-4 bg-primary text-white text-center">
  <h1>Rainfall Prediction System</h1>
  <h3>Welcome, {{name}}</h3>
  <p>Predict rainfall for today or tommorrow</p>
</div>

<nav class="container-fluid navbar bg-dark navbar-dark">
  <div class="container">
```

```

<a class="navbar-brand" href="/profile">Home</a>
<ul class="nav nav-pills">
  <li class="nav-item">
    <a class="nav-link" href="/prediction_Data">Predict</a>
  </li>
  <!--<li class="nav-item">
    <a class="nav-link" href="#scrollspyHeading2">Predict Tommorrow</a>
  </li> -->
</ul>
<a class="navbar-brand" href="/login">Logout</a>
</div>
</nav>
<div class="sec1">
<div id="section1" class="container-fluid text-white" style="padding:119px 20px;">

  <div class="row">
    <div class="col-sm-4">
      <h2>Rainfall Prediction</h2>
      <h5></h5>
      <div class="fakeimg1"></div>
    </div>
    <div class="col-sm-8">
      <a href="/prediction_Data"><h2>Predict the rainfall for today</h2></a>
      <h5 id="date"></h5>
      <p>The use of prediction</p>
      <p>As the rain fall is been predicted at the earlest the person could able to plan
according to the prediction result.</p></div></div>
</div></div>
<!--<div class="sec2">
<div id="section2" class="container-fluid t" style="padding:82px 20px;">
  <div class="row">
    <div class="col-sm-8">
      <h2>TITLE HEADING</h2>
      <h5>Title description, Dec 7, 2020</h5>
      <p>Some text..</p>
      <p>Sunt in culpa qui officia deserunt mollit anim id est laborum consectetur
adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut
enim ad minim veniam, quis nostrud exercitation ullamco.</p></div>
    <div class="col-sm-4">
      <h2>About Me</h2>
      <h5>Photo of me:</h5>
      <div class="fakeimg2"></div>

    </div></div>
</div>-->
<script type="text/javascript" src="static/js/date.js"></script>
</div>

</body>
</html>

```

