**PROJECT DEVELOPMENT PHASE SPRINT-4 SOURCE CODE**

|  |  |
| --- | --- |
| Date | 19 November 2022 |
| Team ID | PNT2022TMID36992 |
| Project Name | Digital Naturalist – AI Enabled Tools For Biodiversity Researchers |
| Maximum Marks | 8 Marks |

**Index.html :**

<html>

<head>

<title>D-Naturalist</title>

<meta charset="utf-8">

<meta name="viewport" content="width=device-width, initial-scale=1">

<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css">

<link href='https://fonts.googleapis.com/css?family=Josefin Sans' rel='stylesheet'>

<link href='https://fonts.googleapis.com/css?family=Merriweather' rel='stylesheet'>

<script src="https://cdn.bootcss.com/popper.js/1.12.9/umd/popper.min.js"></script>

<script src="https://cdn.bootcss.com/jquery/3.3.1/jquery.min.js"></script>

<script src="https://cdn.bootcss.com/bootstrap/4.0.0/js/bootstrap.min.js"></script> <style>

.header {

top:0px; margin:0px; left: 0px; right: 0px; position: fixed; background: #22a8ee; text-transform:uppercase; letter-spacing:3px; color: white; overflow: hidden; padding-bottom: 10px; font-size: 2.25vw; width: 100%; padding-left:0px; text-align: center; padding-top:5px;

font-family: 'Merriweather';

}

.second{ top:60px; bottom:0px; margin:0px; left: 0px; right: 0%;

position: absolute; padding: 0px; width: 100%;

background-image:url({{url\_for('static',filename="images/6.jfif")}}); background-repeat:no-repeat; background-size: cover; background-position:center; background-attachment:absolute;

}

.inside{

top:7%; bottom:0px; margin:0px; left: 5%; right: 55%;

position: absolute; padding-left: 40px; padding-top:8%; padding-right:5%; background-color:transparent; font-family:Merriweather; color:#563F31; font-size:18px; text-align:justify; line-height:32px; margin:auto; overflow:hidden;

}

.myButton{ border: none; text-align: center; cursor: pointer; text-transform: uppercase;

outline: none; overflow: hidden; color: #fff; font-weight: 700; font-size: 12px; background-color: #22a8ee; padding: 10px 15px; margin: 0 auto;

box-shadow: 0 5px 15px rgb(34, 168, 238);

}

.predictimg{ background-image:url({{url\_for('static',filename="images/7.jfif")}}); background-repeat:no-repeat; background-size: cover; background-position:center; background-attachment:absolute;

height:100%; margin-top:49.6%; text-align:center; } #showcase{ height:300px; margin-bottom:20px;

} html {

scroll-behavior: smooth;

}

#main{

float:center; color: #22a8ee; width:100%; padding:0 30px; padding-top:7%; box-sizing: border-box; font-family:Georgia, serif; text-align:center;

}

#sidebar{ float:right; width:50%; background-color: transparent; color: #22a8ee; font-family:Georgia, serif; padding-left:0px; padding-right:0px; padding-top:1px; box-sizing: border-box;

}

.img-preview { width: 300px; height: 300px; position: relative; border: 5px solid #F8F8F8; box-shadow: 0px 2px 4px 0px rgba(0, 0, 0, 0.1); margin-top: 1em; margin-bottom: 1em;

}

.img-preview>div { width: 100%; height: 100%; background-size: 300px 300px; background-repeat: no-repeat; background-position: center;

}

input[type="file"] { display: none;

}

.upload-label{ display: inline-block; padding: 12px 30px; background: #22a8ee; color: #fff;

font-size: 1em; transition: all .4s; cursor: pointer; font-weight:bold;

}

.upload-label:hover{ background: #3A3A3A; color: white; font-weight:bold;

}

.loader { border: 8px solid #f3f3f3; /\* Light grey \*/ border-top: 8px solid #22a8ee; border-radius: 50%; width: 50px; height: 50px; animation: spin 1s linear infinite;

}

@keyframes spin {

0% { transform: rotate(0deg); }

100% { transform: rotate(360deg); }

}

</style>

</head>

<body>

<div class="header">D-Naturalist</div>

<div class="second">

<div class="inside">D-Naturalist creating a web application which uses a deep learning model, trained on different species of birds, flowers , animals , marine animal , plants and get the prediction of the user image is been given.

<br><br>

<section id="showcase">

<br>

<div style="margin-left:32.5%">

<a href="{{ url\_for('register')}}"><button type="button" class="myButton"

>REGISTRATION</button></a>

<br><br>

<a href="{{ url\_for('login')}}"><button type="button" class="myButton" >BIODIVERSITY SCRUTINIZE</button></a>

</div>

</div>

</section>

</div>

<script>

window.onscroll = function() {myFunction()};

$(document).ready(function () {

// Init

$('.image-section').hide();

$('.loader').hide();

$('#result').hide();

// Upload Preview function readURL(input) { if (input.files && input.files[0]) { var reader = new FileReader(); reader.onload = function (e) {

$('#imagePreview').css('background-image', 'url(' + e.target.result + ')');

$('#imagePreview').hide();

$('#imagePreview').fadeIn(650);

}

reader.readAsDataURL(input.files[0]);

}

}

$("#imageUpload").change(function () {

$('.image-section').show();

$('#btn-predict').show();

$('#result').text(''); $('#result').hide(); readURL(this);

});

// Predict

$('#btn-predict').click(function () {

var form\_data = new FormData($('#upload-file')[0]);

// Show loading animation

$(this).hide();

$('.loader').show();

// Make prediction by calling api /predict

$.ajax({ type: 'POST', url: '/predict', data: form\_data, contentType: false, cache: false, processData: false, async: true,

success: function (data) {

// Get and display the result

$('.loader').hide();

$('#result').fadeIn(600);

$('#result').text('Prediction: '+data); console.log('Success!');

},

});

});

});

</script>

</body> </html>

**Login.html:**

<!DOCTYPE html>

<html lang="zxx">

<head>

<title>Water Quality Prediction</title>

<!-- Meta tag Keywords -->

<meta name="viewport" content="width=device-width, initial-scale=1">

<meta charset="UTF-8" />

<meta name="keywords"

content="Login Form" />

<link href="//fonts.googleapis.com/css2?family=Poppins:wght@300;400;500;600&display=swap" rel="stylesheet">

<script src="https://kit.fontawesome.com/af562a2a63.js" crossorigin="anonymous"></script>

<link type="text/css" rel="stylesheet" href="{{ url\_for('static', filename='css/style1.css') }}" />

</head>

<body>

<!-- form section start -->

<section class="w3l-mockup-form">

<div class="container">

<!-- /form -->

<div class="workinghny-form-grid">

<div class="main-mockup">

<div class="alert-close">

<span class="fa fa-close"></span>

</div>

<div class="w3l\_form align-self">

<div class="left\_grid\_info">

<img src="{{ url\_for('static', filename='images/bg.png') }}" alt=""> </div>

</div>

<div class="content-wthree">

<h2>Login Now</h2>

<p></p>

<form action="/login\_validation" method="post">

<input type="email" class="email" name="email" placeholder="Email" required>

<input type="password" class="password" name="password" style="margin-bottom: 2px;" placeholder="Password" required>

<button name="submit" name="submit" class="btn" type="submit">Login</button>

</form>

<div class="social-icons">

<p>Create Account! <a href="/register">Register</a>.</p>

</div>

</div>

</div>

</div>

<!-- //form -->

</div>

</section>

<!-- //form section start -->

<script></script>

<script>

$(document).ready(function (c) {

$('.alert-close').on('click', function (c) {

$('.main-mockup').fadeOut('slow', function (c) {

$('.main-mockup').remove();

});

});

});

</script>

</body>

</html>

**Register.html:**

<!DOCTYPE html>

<html lang="zxx">

<head>

<title>D-Naturalist</title>

<!-- Meta tag Keywords -->

<meta name="viewport" content="width=device-width, initial-scale=1">

<meta charset="UTF-8" /> <meta name="keywords" content="Login Form" />

<link href="//fonts.googleapis.com/css2?family=Poppins:wght@300;400;500;600&display=swap" rel="stylesheet">

<script src="https://kit.fontawesome.com/af562a2a63.js" crossorigin="anonymous"></script>

<link type="text/css" rel="stylesheet" href="{{ url\_for('static', filename='css/style1.css') }}" />

</head>

<body>

<!-- form section start -->

<section class="w3l-mockup-form">

<div class="container">

<!-- /form -->

<div class="workinghny-form-grid">

<div class="main-mockup">

<div class="alert-close">

<span class="fa fa-close"></span>

</div>

<div class="w3l\_form align-self">

<div class="left\_grid\_info">

<img src="{{ url\_for('static', filename='images/bg.png') }}" alt=""> </div>

</div>

<div class="content-wthree">

<h2>Register Now</h2>

<p></p>

<form action="/add\_user" method="post">

<input type="text" class="name" name="name" required placeholder="Name">

<input type="email" class="email" name="email" required placeholder="Email">

<input type="password" class="password" name="password" required placeholder="Password">

<button name="submit" class="btn" type="submit">Register</button>

</form>

<div class="social-icons">

<p>Have an account! <a href="/login">Login</a>.</p>

</div>

</div>

</div>

</div>

<!-- //form -->

</div>

</section>

<!-- //form section start -->

<script>

$(document).ready(function (c) {

$('.alert-close').on('click', function (c) {

$('.main-mockup').fadeOut('slow', function (c) {

$('.main-mockup').remove();

});

});

});

</script>

</body>

</html>

**App.py:**

from \_\_future\_\_ import division, print\_function import os import numpy as np import tensorflow as tf from tensorflow.keras.preprocessing import image from tensorflow.keras.models import load\_model from flask import Flask, request, render\_template from werkzeug.utils import secure\_filename import mysql.connector

global graph

#graph=tf.get\_default\_graph()

# Define a flask app app = Flask(\_\_name\_\_) model = load\_model('natur1.h5')

print('Model loaded. Check http://127.0.0.1:5000/')

conn=mysql.connector.connect(host="localhost", user="root", password="", database="login") cursor=conn.cursor()

@app.route('/') # route to display the home page def home():

return render\_template('index.html') # rendering the home page

@app.route('/index', methods=['GET','POST']) def index(): # Main page

return render\_template('digital.html')

@app.route('/login') def login(): # put application's code here

return render\_template('login.html')

@app.route('/register') def register(): # put application's code here return render\_template('register.html')

@app.route('/login\_validation', methods=['POST']) def login\_validation(): email = request.form.get('email') password = request.form.get('password')

cursor.execute("""SELECT \* FROM `users` WHERE `email` LIKE'{}' AND `password` LIKE

'{}'""".format(email, password))

users = cursor.fetchall()

if len(users) > 0: return render\_template('digital.html') else:

return render\_template('login.html', prediction\_text="1")

@app.route('/add\_user', methods=['POST']) def add\_user():

name = request.form.get('name') email = request.form.get('email')

password = request.form.get('password')

cursor.execute(

"""INSERT INTO `users`(`id`, `name`, `email`, `password`) VALUES

(NULL,'{}','{}','{}')""".format(name, email,

password)) conn.commit()

return render\_template('login.html', prediction\_text="0")

@app.route('/predict', methods=['GET', 'POST']) def upload():

if request.method == 'POST': # Get the file from post request f = request.files['image']

# Save the file to ./uploads basepath = os.path.dirname(\_\_file\_\_)

file\_path = os.path.join(

basepath, 'uploads', secure\_filename(f.filename)) f.save(file\_path) img = image.load\_img(file\_path, target\_size=(64,64))

x = image.img\_to\_array(img)

x = np.expand\_dims(x, axis=0)

#with graph.as\_default():

preds = np.argmax(model.predict(x))

found = ["Bird- Antbird - Large passerine bird family , subtropical and tropical Central and South America, from Mexico to Argentina",

"Bird- Peacock - The blue peacock lives in India and Sri Lanka, ",

"Bird- Wild Turkey - Forest floors, but can also be found in grasslands and swamps ",

"Animal- Gatto - Continental Europe, southwestern Asia, the savannah regions of Africa and as a pet.",

"Animal- Mucca - India, in east Africa, in northern Europe, and in South America",

"Animal- Pecora - The Arctic circle as far south as Patagonia",

"Flower- Rose - Most species are native to Asia, with smaller numbers native to Europe, North America, and northwestern Africa",

"Flower- Sunflower - Indo-gangetic plains of Punjab, Haryana and UP in spring and Bihar, Odisha, West Bengal ",

"Flower- Tulip - Himachal Pradesh and hilly areas of Jammu and Kashmir "] print(preds) text = found[preds]

return text

if \_\_name\_\_ == '\_\_main\_\_': app.run(threaded = False)

**Digital.html:**

<html>

<head>

<title>D-Naturalist</title>

<meta charset="utf-8">

<meta name="viewport" content="width=device-width, initial-scale=1">

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<link href='https://fonts.googleapis.com/css?family=Josefin Sans' rel='stylesheet'>

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<script src="https://cdn.bootcss.com/bootstrap/4.0.0/js/bootstrap.min.js"></script>

<style>

.header { top:0px; margin:0px;

left: 0px;

right: 0px; position: fixed; background: #22a8ee; text-transform:uppercase; letter-spacing:3px; color: white; overflow: hidden; padding-bottom: 10px;

font-size: 2.25vw; width: 100%; padding-left:0px; text-align: center;

padding-top:5px;

font-family: 'Merriweather';

}

.second{ top:60px; bottom:0px; margin:0px; left: 0px;

right: 0%;

position: absolute; padding: 0px; width: 100%;

background-image:url({{url\_for('static',filename="images/6.jfif")}}); background-repeat:no-repeat; background-size: cover; background-position:center;

background-attachment:absolute;

}

.inside{

top:7%; bottom:0px; margin:0px; left: 5%;

right: 55%;

position: absolute; padding-left: 40px; padding-top:8%;

padding-right:5%;

background-color:transparent;

font-family:Merriweather; color:#563F31; font-size:18px; text-align:justify;

line-height:32px; margin:auto;

overflow:hidden;

}

.myButton{ border: none; text-align: center; cursor: pointer;

text-transform: uppercase; outline: none; overflow: hidden; color: #fff; font-weight: 700; font-size: 12px; background-color: #22a8ee; padding: 10px 15px;

margin: 0 auto;

box-shadow: 0 5px 15px rgb(34, 168, 238);

}

.predictimg{

background-image:url({{url\_for('static',filename="images/7.jfif")}}); background-repeat:no-repeat; background-size: cover; background-position:center; background-attachment:absolute;

height:100%; margin-top:49.6%; text-align:center;

}

#showcase{ height:300px; margin-bottom:30px;

} html {

scroll-behavior: smooth;

}

#main{ float:center; color: #22a8ee; width:100%; padding:0 30px; padding-top:7%; box-sizing: border-box; font-family:Georgia, serif; text-align:center;

}

#sidebar{

float:right; width:50%;

background-color: transparent; color: #22a8ee; font-family:Georgia, serif; padding-left:0px; padding-right:0px; padding-top:1px;

box-sizing: border-box;

}

.img-preview {

width: 300px; height: 300px; position: relative; border: 5px solid #F8F8F8; box-shadow: 0px 2px 4px 0px rgba(0, 0, 0, 0.1); margin-top: 1em; margin-bottom: 1em;

}

.img-preview>div { width: 100%; height: 100%; background-size: 300px 300px; background-repeat: no-repeat; background-position: center;

}

input[type="file"] { display: none;

}

.upload-label{ display: inline-block; padding: 12px 30px; background: #22a8ee; color: #fff; font-size: 1em; transition: all .4s; cursor: pointer;

font-weight:bold;

}

.upload-label:hover{ background: #3A3A3A; color: white;

font-weight:bold;

}

.loader {

border: 8px solid #f3f3f3; /\* Light grey \*/ border-top: 8px solid #22a8ee; border-radius: 50%; width: 50px; height: 50px;

animation: spin 1s linear infinite;

}

@keyframes spin {

0% { transform: rotate(0deg); }

100% { transform: rotate(360deg); }

}

</style>

</head>

<body>

<div class="header">D-Naturalist</div> <div class="second">

<div class="inside">D-Naturalist creating a web application which uses a deep learning

model, trained on different species of birds, flowers , animals , marine animal , plants and get the prediction of the user image is been given.

<br><br>

<section id="showcase">

<br>

<div style="margin-left:32.5%">

<a href="#section2"><button type="button" class="myButton" >BIODIVERSITY

SCRUTINIZE</button></a>

</div>

</div>

</section>

</div>

<div class="predictimg" id="section2" >

<section id="main">

<div style="text-align:left;width:100%;padding-left:56%;">

<p><h3 style=font-size:25px> Click on Specify and Sync the image...<br><br></h3></p>

</div>

</section>

<div style="margin-top:0%;padding-top:0%;padding-left:40%;font-family:Georgia, serif;width:100%;">

<div>

<h4 style=font-size:19px>Upload your image</h4>

<form action = "http://localhost:5000/" id="upload-file" method="post" enctype="multipart/form-data">

<label for="imageUpload" class="upload-label">

Specify.....

</label>

<input type="file" name="image" id="imageUpload" accept=".png, .jpg, .jpeg">

</form>

<div class="image-section" style="display:none;padding-left:35%;">

<div class="img-preview">

<div id="imagePreview">

</div>

</div>

</div>

<div class="image-section" style="display:none;">

<div>

<button type="button" class="btn btn-lg upload-label" id="btnpredict">foresee!</button>

</div>

</div>

<div class="loader" style="display:none;"></div>

<div style="width:70%;text-align:justify;margin-left:20%;">

<h4>

<span id="result"> </span>

</h4></div>

</div>

</div></div>

<script>

window.onscroll = function() {myFunction()};

$(document).ready(function () {

// Init

$('.image-section').hide();

$('.loader').hide();

$('#result').hide();

// Upload Preview function readURL(input) { if (input.files && input.files[0]) { var reader = new FileReader(); reader.onload = function (e) {

$('#imagePreview').css('background-image', 'url(' + e.target.result + ')');

$('#imagePreview').hide();

$('#imagePreview').fadeIn(650);

}

reader.readAsDataURL(input.files[0]);

}

}

$("#imageUpload").change(function () {

$('.image-section').show();

$('#btn-predict').show();

$('#result').text(''); $('#result').hide(); readURL(this);

});

// Predict

$('#btn-predict').click(function () {

var form\_data = new FormData($('#upload-file')[0]);

// Show loading animation

$(this).hide();

$('.loader').show();

// Make prediction by calling api /predict

$.ajax({ type: 'POST', url: '/predict', data: form\_data, contentType: false, cache: false, processData: false, async: true,

success: function (data) { // Get and display the result $('.loader').hide();

$('#result').fadeIn(600); $('#result').text('Prediction: '+data);

console.log('Success!');

},

});

});

});

</script>

</body>

</html>