**PROJECT DEVELOPMENT PHASE**

**SPRINT-4 SOURCE CODE**

|  |  |
| --- | --- |
| Date | 18 November 2022 |
| Team ID | PNT2022TMID06561 |
| Project Name | Digital Naturalist – AI Enabled Tools For Biodiversity Researchers |
| Maximum Marks | 8 Marks |

**Digital.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.jpg")}});

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.jpg")}}); 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%;fontfamily: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="btn-predict">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>

**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

global graph

#graph=tf.get\_default\_graph() # Define a flask app app = Flask(\_\_name\_\_)

model = load\_model('nature1.h5')

print('Model loaded. Check http://127.0.0.1:5000/') @app.route('/', methods=['GET']) def index(): # Main page

return render\_template('digital.html')

@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 = ["animal- badger",

"animal- bat",

"animal- bear",

"animal- bee",

"animal- dolphin",

"animal- donkey",

"animal- dragonfly",

"animal- duck",

"animal- eagle",

"animal- elephant",

"animal- flamingo",

"animal- fly",

"animal- fox",

"animal- gallina",

"animal- gatto",

"animal- hedgehog",

"animal- hippopotamus",

"animal- hornbill",

"animal- horse", "animal- hummingbird"]

print(preds) text = found[preds]

return text

if \_\_name\_\_ == '\_\_main\_\_':

app.run(threaded = False)