

PROJECT DEVELOPMENT PHASE

SPRINT-4 SOURCE CODE

Date	17 November 2022
Team ID	PNT2022TMID49483
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>

</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">
                            
                        </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>
        </div>
    <!-- //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>

```



```

    });
</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">
              
            </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">
    <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: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>

            <div>

                <div class="predicting" 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="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.onload = 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>
```