

PROJECT DEVELOPMENT PHASE

SPRINT-4 SOURCE CODE

Date	18 November 2022
Team ID	PNT2022TMID36210
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"><li
nk 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;
position:center;
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;
size:18px; font-
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);
    }

```

```

.predicting{
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>
```



```

        <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>
```

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)
```