

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**PROJECT TITLE**

***Image Recognition with IBM Cloud Visual Recognition***

College code:1103

**Phase 3**

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Web Interface where users can upload Images and view the AI generated caption

Building a simple image recognition application using HTML, CSS, and JavaScript involves integrating a pre-trained machine learning model for image recognition into a web interface.

I'll use the Clarifai API as an image recognition service. Here's how you can create a basic image recognition web app:

**Step 1: Sign Up for Clarifai**

* We'll need an API key from Clarifai.
* Sign up at [[https://www.clarifai.com/](https://www.clarifai.com/)](https://www.clarifai.com/%5d(https://www.clarifai.com/))
* Obtain your API key.

**Step 2: Set Up Your Project Structure**

Create a project folder with the following structure:  
  
 1. Index.html

2.Style.css  
3.Script.js

**Step 3: HTML (index.html) - User Interface**

Create the HTML file (index.html) for your image recognition app:  
  
HTML:

<!DOCTYPE html>  
<html lang="en">  
<head>  
    <meta charset="UTF-8">  
    <title>Image Recognition</title>  
    <link rel="stylesheet" type="text/css" href="style.css">  
</head>  
<body>  
    <h1>Image Recognition App</h1>  
    <input type="file" id="imageInput" accept="image/\*">  
    <button onclick="recognizeImage()">Recognize Image</button>  
    <div id="results"></div>  
    <script src="script.js"></script>  
</body>  
</html>  
  
  
**Step 4: CSS (style.css) – Styling**

Create a CSS file (style.css) to style your web interface:

CSS:

body {  
    text-align: center;  
    font-family: Arial, sans-serif;  
    margin: 20px;  
}  
  
h1 {  
    color: #333;  
}  
  
input[type="file"] {  
    display: none;  
}  
  
button {  
    background-color: #4CAF50;  
    color: white;  
    border: none;  
    padding: 10px 20px;  
    cursor: pointer;  
}  
  
#results {  
    margin: 20px;  
    font-style: italic;  
    color: #888;  
    text-align: left;  
}  
  
  
**Step 5: JavaScript (script.js) - Image Recognition Logic**

Create a JavaScript file (script.js) to handle image recognition using the Clarifai API.

JAVASCRIPT:  
// Initialize the Clarifai API with your API key  
const apiKey = ‘2c7c101d009748658949f3ed2a3fbe78’;  
const clarifai = new Clarifai.App({ apiKey });  
  
// Function to recognize an uploaded image  
function recognizeImage() {  
    const imageInput = document.getElementById('imageInput');  
    const resultsDiv = document.getElementById('results');  
     
    const file = imageInput.files[0];  
     
    if (!file) {  
        alert('Please select an image first.');  
        return;  
    }  
  
    // Predict concepts in the image  
    clarifai.models.predict(Clarifai.GENERAL\_MODEL, { base64: fileToBase64(file) })  
        .then(response => {  
            const concepts = response.outputs[0].data.concepts;  
            let resultHTML = '<h2>Recognition Results:</h2>';  
            resultHTML += '<ul>';  
            concepts.forEach(concept => {  
                resultHTML += `<li>${[concept.name](http://concept.name/" \t "_blank)}: ${concept.value.toFixed(2)}</li>`;  
            });  
            resultHTML += '</ul>';  
            resultsDiv.innerHTML = resultHTML;  
        })  
        .catch(error => {  
            console.error('Error recognizing the image:', error);  
            resultsDiv.innerHTML = 'Error recognizing the image. Please try again.';  
        });  
}  
  
// Helper function to convert an image to base64  
function fileToBase64(file) {  
    return new Promise((resolve, reject) => {  
        const reader = new FileReader();  
        reader.onload = () => resolve(reader.result.split(',')[1]);  
        reader.onerror = reject;  
        reader.readAsDataURL(file);  
    });  
}  
  
  
**Step 6: Running the Application**

* Open your HTML file (index.html) in a web browser.
* You can select an image and click the "Recognize Image" button to see the recognition results.
* Make sure you have replaced `'YOUR\_CLARIFAI\_API\_KEY'` with your actual Clarifai API key.