



**GRT INSTITUTE OF
ENGINEERING AND
TECHNOLOGY, Tiruttani**



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PROJECT TITLE

Image Recognition with IBM Cloud Visual Recognition

College code:1103

Phase 3

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3rd yr, 5th sem

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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/>
- 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}: ${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.