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Phase : 4

Project title: Image Recognition with IBM Cloud Visual Recognition

Developing and Building,

Building a complete project for image recognition with IBM Cloud Visual Recognition involves multiple components, including setting up a backend server, creating a web-based front-end, and integrating with the Visual Recognition service. Below is a high-level outline of the steps involved,

let's proceed with the development and building of the project for image recognition using IBM Cloud Visual Recognition.

Step 3: JavaScript Functionality to Interact with Visual Recognition API

In this step, we'll add JavaScript code to handle form submission, upload the image to the Visual Recognition service, and display the AI-generated captions.

```html
<!-- ... Previous HTML content ... -->

<script>
  const apiKey = 'YOUR_API_KEY'; // Replace with your actual API key
  const apiUrl = 'https://api.us-south.visual-recognition.watson.cloud.ibm.com/instances/YOUR_INSTANCE_ID/v3/classify?version=2018-03-19';
```

```
 document.getElementById('imageForm').addEventListener('submit', (event) => {
  event.preventDefault();

  const fileInput = document.getElementById('imageInput');
  const file = fileInput.files[0];

  if (file) {
   const formData = new FormData();
   formData.append('images_file', file);

   fetch(apiUrl, {
    method: 'POST',
    headers: {
     'Authorization': 'Basic ' + btoa('apikey:' + apiKey)
    },
    body: formData
   })
   .then(response => response.json())
   .then(data => {
    // Display the first class detected as the caption
    const caption = data.images[0].classifiers[0].classes[0].class;
    document.getElementById('captionResult').innerText = 'AI-generated caption: ' +
caption;
   })
   .catch(error => console.error('Error:', error));
  }
```

```
  });
</script>
</body>
</html>
```

Replace `'YOUR_API_KEY'` with the actual API key you obtained from IBM Cloud for the Visual Recognition service. Also, replace `'YOUR_INSTANCE_ID'` with the actual instance ID of your Visual Recognition service.

Step 4: Testing

Now, when a user uploads an image using the provided form, the JavaScript code will send the image to the Visual Recognition service for classification and display the AI-generated caption on the web page.

Ensure you have a web server to serve this HTML file (you can use a simple local server like Python's `http.server`), and test the application by uploading images.

Remember to replace the placeholder API key and instance ID with your actual credential.