CAD – PHASE 3 ASSIGNMENT

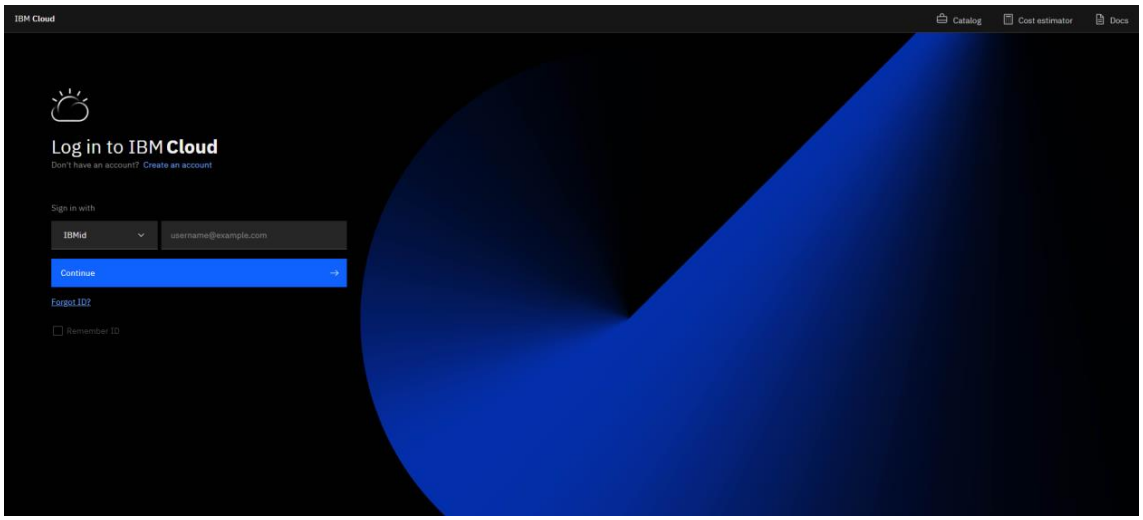
DEVELOPMENT PHASE 1

Design a simple web interface where users can upload images and view the AI-generated captions.

Here are the step-by-step instructions to create a simple web interface for users to upload images and view AI-generated captions.

Step 1: Create an IBM Cloud Account

Step 2: Log into IBM Cloud



Step 3: Set Up the Visual Recognition Service

- Once you are logged in, go to the IBM Cloud Dashboard.
- Click on "Create Resource" to create a new service.
- In the search bar, type "Visual Recognition" and select the "Visual Recognition" service from the catalog.
- Follow the prompts to create the service. You may need to choose a region and give your service a name.

Step 4: Obtain API Keys

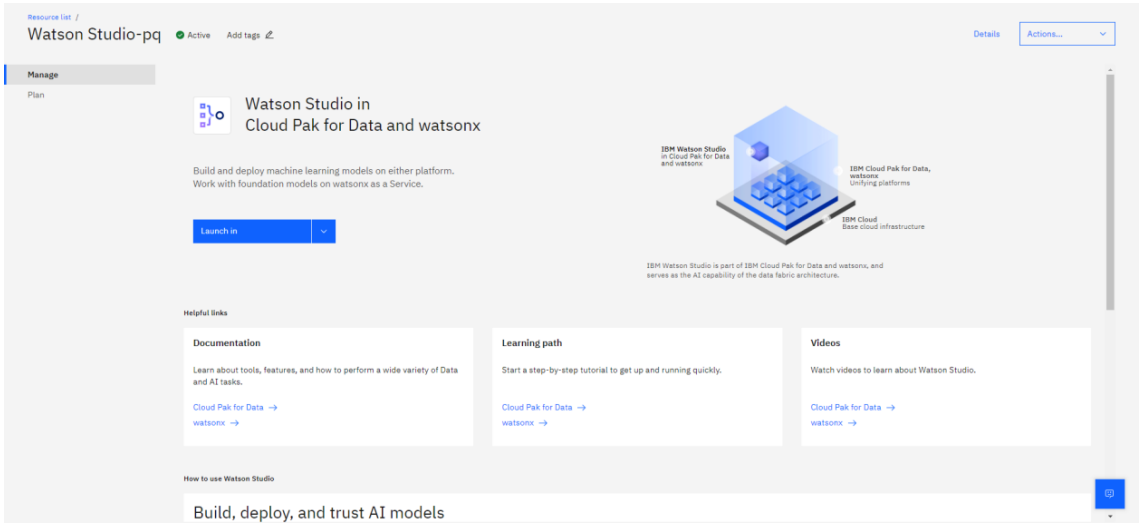
Step 5: Design a Simple Web Interface

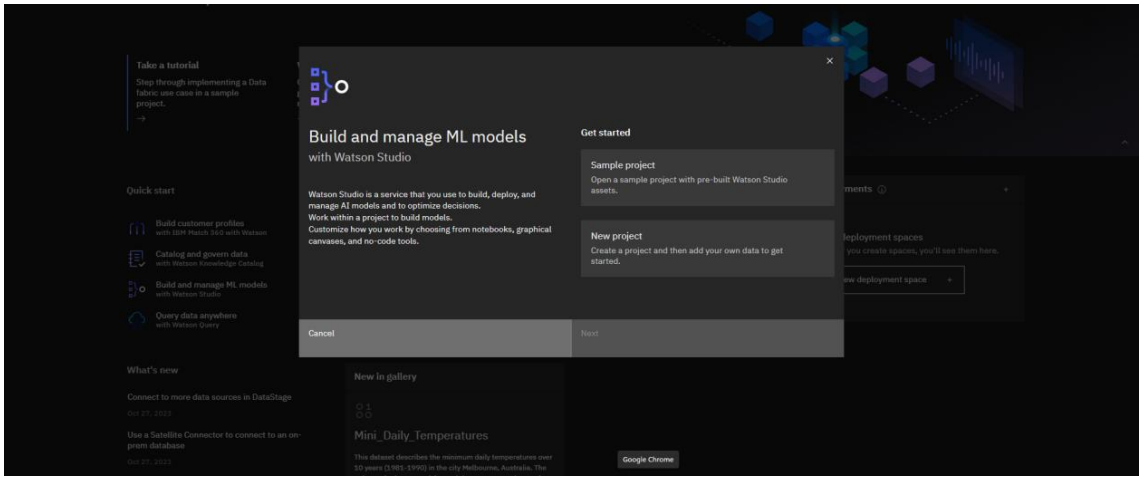
```
<!DOCTYPE html>
<html>
<head>
    <title>Image Recognition</title>
</head>
<body>
    <h1>Image Recognition</h1>
    <input type="file" id="imageInput" accept="image/*" />
    <button onclick="uploadImage()">Upload Image</button>
    <div id="imageContainer"></div>
    <div id="captionContainer"></div>

    <script>
        const apiKey = 'YOUR_API_KEY';
        const apiUrl = 'YOUR_API_URL';

        function uploadImage() {
            const fileInput = document.getElementById('imageInput');
```

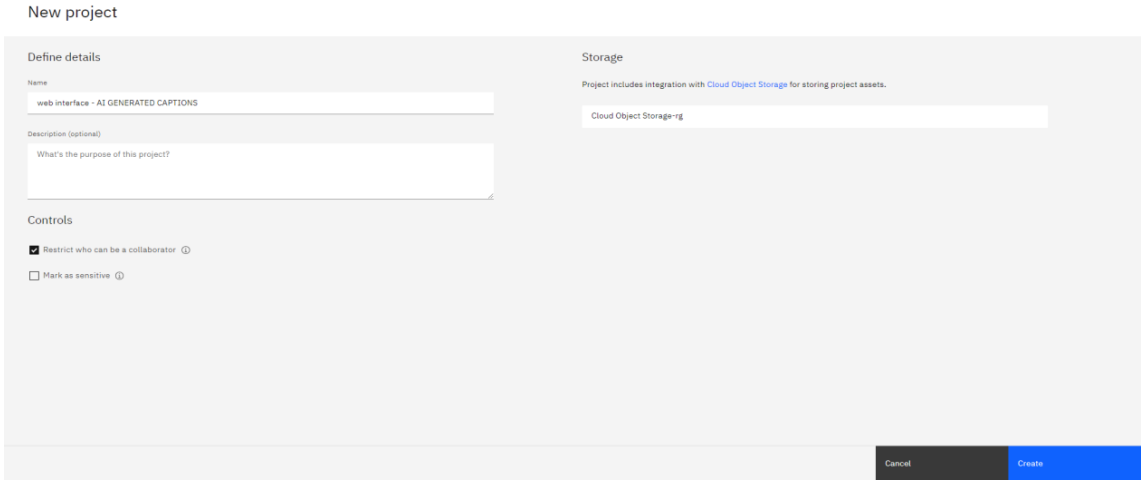
```
        const imageContainer = document.getElementById('imageContainer');
        const captionContainer =
document.getElementById('captionContainer');

        if (fileInput.files.length > 0) {
            const imageFile = fileInput.files[0];

            const formData = new FormData();
            formData.append('images_file', imageFile);

            fetch(apiUrl + '/v3/classify?version=2022-01-01', {
                method: 'POST',
                headers: {
                    'Authorization': 'Basic ' + btoa('apikey:' + apiKey)
                },
                body: formData
            })
            .then(response => response.json())
            .then(data => {
                // Display the uploaded image
                const imageUrl = URL.createObjectURL(imageFile);
                const imgElement = document.createElement('img');
                imgElement.src = imageUrl;
                imageContainer.innerHTML = '';
                imageContainer.appendChild(imgElement);

                // Display the AI-generated captions
```

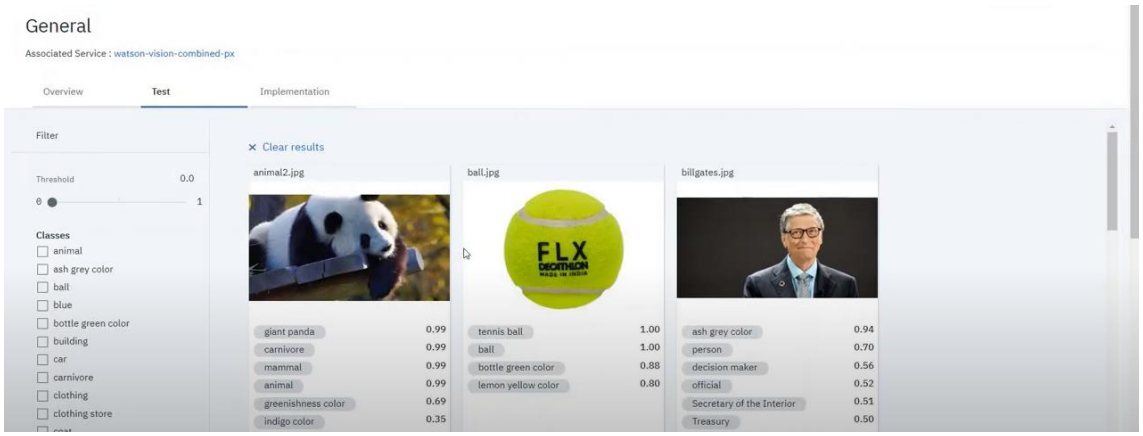
```
                captionContainer.innerHTML = '<strong>AI-Generated
Captions:</strong><br>';
                data.images[0].classifiers[0].classes.forEach(cls => {
                    captionContainer.innerHTML += cls.class + ': ' + cls.score +
'<br>';
                });
            })
            .catch(error => {
                console.error('Error:', error);
            });
        } else {
            alert('Please select an image to upload.');
        }
    }
  </script>
</body>
</html>
```

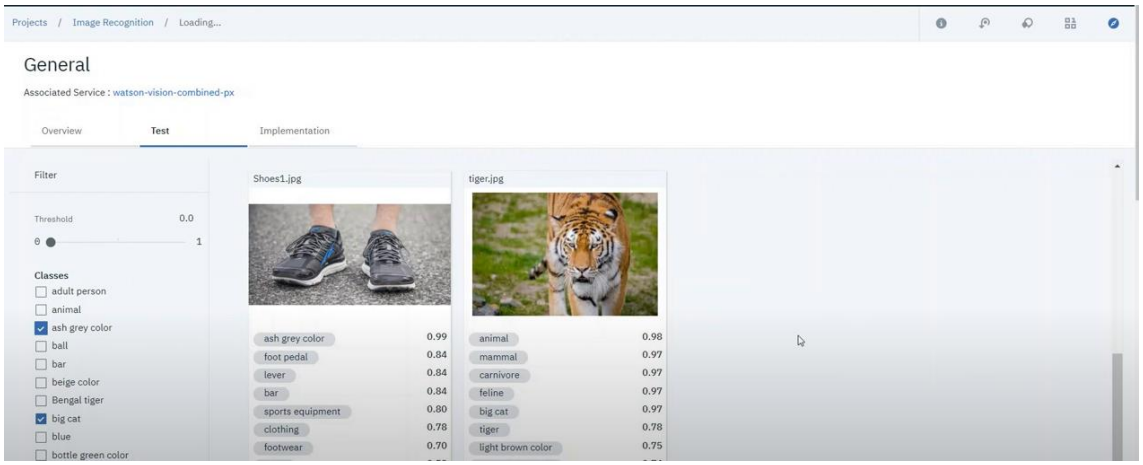
Step 6: Integrate the Visual Recognition API


Resource list /
Watson Studio-pq
Active
Add tags
Details
Actions...
Manage
Plan
Watson Studio in
Cloud Pak for Data and watsonx
Build and deploy machine learning models on either platform.
Work with foundation models on watsonx as a Service.
Launch in
IBM Watson Studio
in Cloud Pak for Data
and watsonx
IBM Cloud Pak for Data,
watsonx
Unifying platforms
IBM Cloud
Base cloud infrastructure
IBM Watson Studio is part of IBM Cloud Pak for Data and watsonx, and
serves as the AI capability of the data fabric architecture.
Helpful links
Documentation
Learn about tools, features, and how to perform a wide variety of Data
and AI tasks.
Cloud Pak for Data →
watsonx →
Learning path
Start a step-by-step tutorial to get up and running quickly.
Cloud Pak for Data →
watsonx →
Videos
Watch videos to learn about Watson Studio.
Cloud Pak for Data →
watsonx →
How to use Watson Studio
Build, deploy, and trust AI models


Take a tutorial
Step through implementing a Data
fabric use case in a sample
project.
Quick start
Build customer profiles
with IBM Match 360 with Watson
Catalog and govern data
with Watson Knowledge Catalog
Build and manage ML models
with Watson Studio
Query data anywhere
with Watson Query
What's new
Connect to more data sources in DataStage
Oct 27, 2023
Use a Satellite Connector to connect to an on-
prem database
Oct 27, 2023
Build and manage ML models
with Watson Studio
Get started
Watson Studio is a service that you use to build, deploy, and
manage AI models and to optimize decisions.
Work within a project to build models.
Customize how you work by choosing from notebooks, graphical
canvases, and no-code tools.
Sample project
Open a sample project with pre-built Watson Studio
assets.
New project
Create a project and then add your own data to get
started.
Cancel
Next
New in gallery
Mini_Daily_Temperatures
This dataset describes the minimum daily temperatures over
10 years (1981-1990) in the city Melbourne, Australia. The
Google Chrome


New project
Define details
Name
web interface - AI GENERATED CAPTIONS
Description (optional)
What's the purpose of this project?
Controls
Restrict who can be a collaborator
Mark as sensitive
Storage
Project includes integration with Cloud Object Storage for storing project assets.
Cloud Object Storage-rg
Cancel
Create


General
Associated Service : watson-vision-combined-px
Overview
Test
Implementation
Filter
Threshold
0.0
0
1
Classes
animal
ash grey color
ball
blue
bottle green color
building
car
carnivore
clothing
clothing store
Clear results
animal2.jpg
giant panda 0.99
carnivore 0.99
mammal 0.99
animal 0.99
greenishness color 0.69
indigo color 0.35
ball.jpg
tennis ball 1.00
ball 1.00
bottle green color 0.88
lemon yellow color 0.80
billgates.jpg
ash grey color 0.94
person 0.70
decision maker 0.56
official 0.52
Secretary of the Interior 0.51
Treasury 0.50


Projects / Image Recognition / Loading...
General
Associated Service : watson-vision-combined-px
Overview
Test
Implementation
Filter
Threshold
0.0
0
1
Classes
adult person
animal
ash grey color
ball
bar
beige color
Bengal tiger
big cat
blue
bottle green color
Shoes1.jpg
ash grey color 0.99
foot pedal 0.84
lever 0.84
bar 0.84
sports equipment 0.80
clothing 0.78
footwear 0.70
tiger.jpg
animal 0.98
mammal 0.97
carnivore 0.97
feline 0.97
big cat 0.97
tiger 0.78
light brown color 0.75