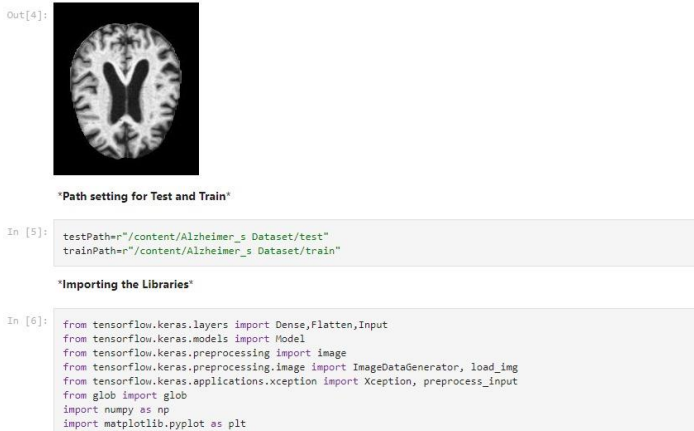
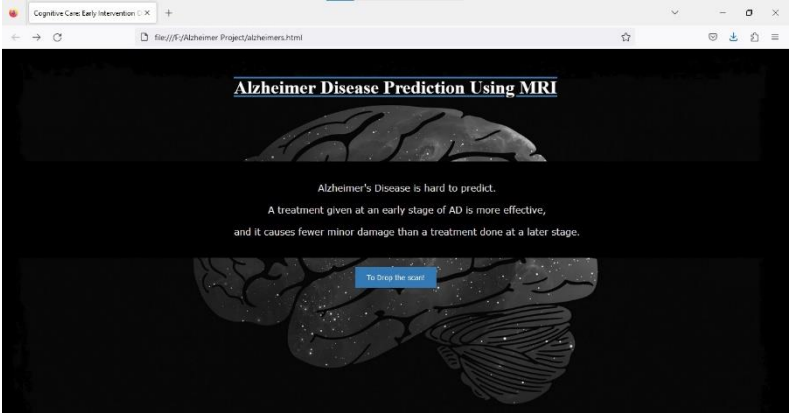
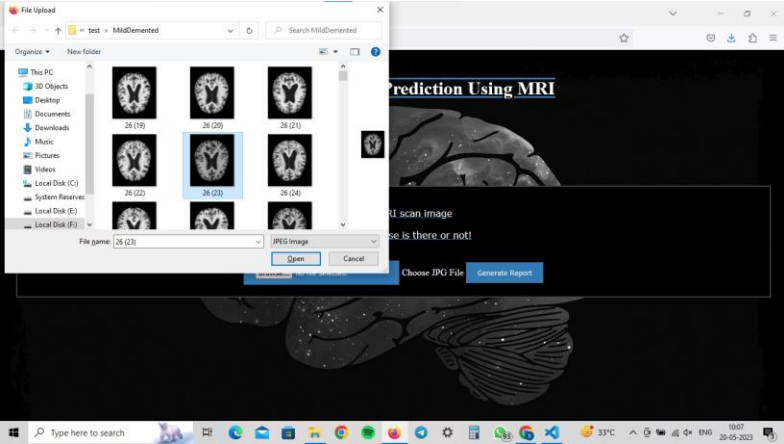
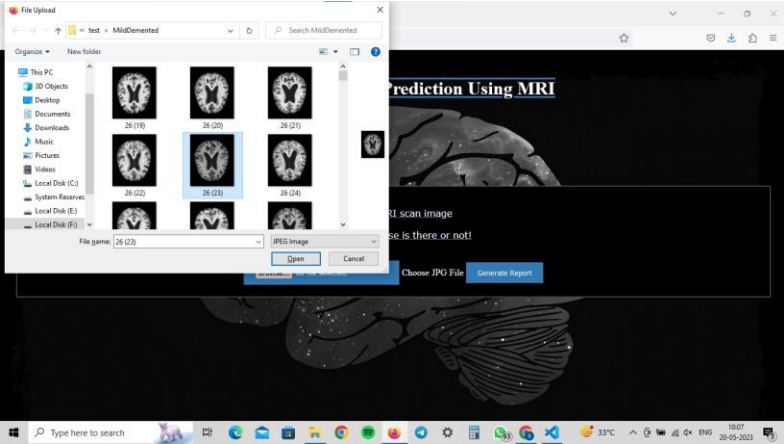
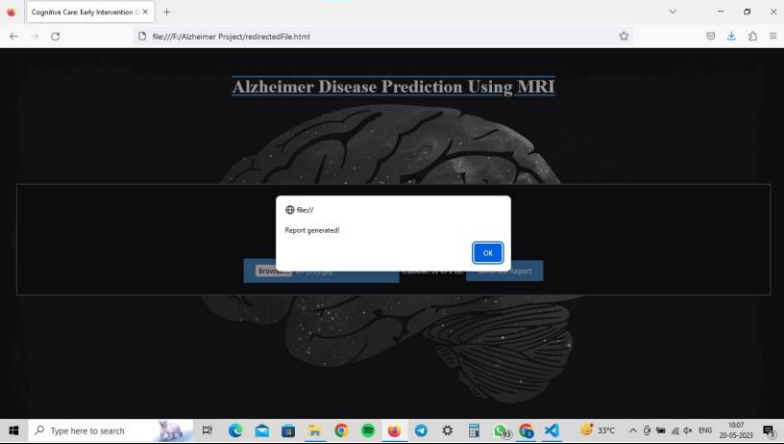


Project Development Phase Model Performance Test

| | |
|--------------|----------------------------------------------------------------------|
| Date | 20 May 2023 |
| Team ID | NM2023TMID04624 |
| Project Name | Project – Cognitive Care : Early Intervention of Alzheimer's Disease |

Model Performance Testing:

| S.No. | Parameter | Values | Screenshot |
|-------|---------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Model Summary | <p>Early Intervention of Alzheimer's disease using deep learning</p> <p>Web Page</p> |  <p>The screenshot shows a Jupyter Notebook interface. At the top, there is an output cell labeled 'Out[4]:' displaying a grayscale axial MRI scan of a human brain. Below this, there is a code cell labeled 'In [5]:' with the following text: <code>testPath=r"/content/Alzheimer_s Dataset/test"</code> and <code>trainPath=r"/content/Alzheimer_s Dataset/train"</code>. Another code cell labeled 'In [6]:' shows the import of various libraries: <code>from tensorflow.keras.layers import Dense, Flatten, Input</code>, <code>from tensorflow.keras.models import Model</code>, <code>from tensorflow.keras.preprocessing import image</code>, <code>from tensorflow.keras.preprocessing.image import ImageDataGenerator, load_img</code>, <code>from tensorflow.keras.applications.xception import Xception, preprocess_input</code>, <code>from glob import glob</code>, <code>import numpy as np</code>, and <code>import matplotlib.pyplot as plt</code>.</p>  <p>The screenshot shows a web browser window with the title 'Cognitive Care Early Intervention'. The address bar shows the file path 'file:///C:/Alzheimer Project/alzheimers.html'. The web page has a dark background with a large, stylized illustration of a human brain. The title 'Alzheimer Disease Prediction Using MRI' is displayed at the top. Below the title, there is text: 'Alzheimer's Disease is hard to predict. A treatment given at an early stage of AD is more effective, and it causes fewer minor damage than a treatment done at a later stage.' At the bottom of the brain illustration, there is a blue button with the text 'To Drop the scan!'.</p> |

| | | | |
|----|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | <p>Uploading dataset into the website</p>  |  |
| | | <p>Running the datasets on the background</p> <pre> training_set.class_indices {'MildDemented': 0, 'ModerateDemented': 1, 'NonDemented': 2, 'VeryMildDemented': 3} img=image.load_img(r'/content/Alzheimer_s Dataset/test/VeryMildDemented/26 (59).jpg',target_size=(224,224)) x=image.img_to_array(img) import numpy as np x=np.expand_dims(x,axis=0) img_data=preprocess_input(x) img_data.shape img_data.shape model.predict(img_data) output=np.argmax(model.predict(img_data), axis=1) output 1/1 [=====] - 1s 717ms/step 1/1 [=====] - 1s 564ms/step array([3]) </pre> |  |
| 2. | Accuracy | <p>Training Accuracy – 90.57%</p> <p>Validation Accuracy – 98.60%</p> | <pre> Epoch 28/30 205/205 [=====] - 1206s 6s/step - loss: 0.2968 - acc: 0.8964 - auc: 0.9832 - val_loss: 0.3297 - val_acc: 0.8694 - val_auc: 0.9808 Epoch 29/30 205/205 [=====] - 1211s 6s/step - loss: 0.2797 - acc: 0.8999 - auc: 0.9849 - val_loss: 0.3441 - val_acc: 0.8670 - val_auc: 0.9804 Epoch 30/30 205/205 [=====] - 1209s 6s/step - loss: 0.2705 - acc: 0.9057 - auc: 0.9860 - val_loss: 0.3358 - val_acc: 0.8725 - val_auc: 0.9801 custom_inception_model.save('adp.h5') </pre> |

