Project Development

Phase Delivery of Sprint 1

Date	31 October 2022
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Project Name	AI-poweredNutritionAnalyserforFitnessEnthusiasts65GP

Task 1:

Download the dataset:

The dataset has been downloaded and the drive link is given **Run the dataset**

(Unzipping the dataset):

Code:

```
from google.colab import drive
drive.mount('/content/drive')
```

```
Mounted at /content/drive
```

```
[ ]  !unzip '/content/drive/MyDrive/Fruit dataset.zip'
```

Output:

```
!unzip '/content/drive/MyDrive/Fruit dataset.zip'
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4873.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_489.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4577.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4906.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_5112.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4732.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4792.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4675.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4818.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4835.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4832.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4648.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4844.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4797.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4569.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4917.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4334.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4719.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4842.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4475.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4572.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4899.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4238.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_5292.jpg
  inflating: Dataset/TRAIN_SET/ORANGE/n07749192_4522.jpg
✓ 0s  completed at 9:02 PM
```

Task 2:

Image Preprocessing:

Import ImageDataGenerator

Library: Code:

```
from keras.preprocessing.image import ImageDataGenerator
```

Configure ImageDataGenerator

Code:

```
#setting parameter for Image Data agumentation to the training data
train_datagen = ImageDataGenerator(rescale=1./255,shear_range=0.2,zoom_range=0.2,horizontal_flip=True)
#Image Data agumentation to the testing data
test_datagen=ImageDataGenerator(rescale=1./255)
```

Apply ImageDataGenerator Functionality to Trainset and Testset:
Code:

```
#performing data agumentation to train data
x_train = train_datagen.flow_from_directory(
    r'/content/Dataset/TRAIN_SET',
    target_size=(64, 64),batch_size=5,color_mode='rgb',class_mode='sparse')
#performing data agumentation to test data
x_test = test_datagen.flow_from_directory(
    r'/content/Dataset/TEST_SET',
    target_size=(64, 64),batch_size=5,color_mode='rgb',class_mode='sparse')
```

Output:

```
Found 4118 images belonging to 5 classes.
Found 929 images belonging to 5 classes.
```

Task 3:

Model Building:

Import Libraries:

Code:

```
import numpy as np
import tensorflow
from tensorflow.keras.models import Sequential
from tensorflow.keras import layers
from tensorflow.keras.layers import Dense,Flatten
from tensorflow.keras.layers import Conv2D,MaxPooling2D,Dropout
```

Task 4
Initialize modle:
Code:

```
# Initializing the CNN
classifier = Sequential()
```