**NUTRITION ASSISTANT APPLICATION**

# FUNCTIONAL AND NON FUNCTIONAL REQUIREMENTS

**Functional Requirements**

**Upload Image**

In this module, upload the nutrition datasets in the form of CSV file format. In addition, the data is saved in a database for future use. Fruits and vegetables calorie, protein, fat, carbohydrate and ingredients values are included in the dataset. These values are taken from the Kaggle website and saved as integer values.

**Filtering Noise**

Filter techniques are used to remove noise in images in order to evaluate nutrients based on the fruits or vegetables. The filter's objective is to remove noise from photos. It is supported by a statistical methodology. The usual frequency response of a filter is built. Filtering is a nonlinear image processing technique used to minimise "salt and pepper" noise. When edge preservation and noise reduction are concerns, a median filter is superior to convolution.

**Classification**

The food image uploaded from the user end will be compared with the food items in the system database for the features obtained in the feature extraction step. The specific food item will be recognised when the perfect match is obtained based on the attributes matched. The name of the detected food item and the nutrition details will be displayed over the food.

**Nutrition Detection**

# The food nutrition API receives the image after the model has identified the food category or food type and extracts the food's nutritional data before sending it to the system. The system contrasts the nutritional information with the suggested dietary allowances. If the amount of a specific nutrient, let's say calories, exceeds the recommended dietary allowance, the user will receive a warning message to reduce nutrition intake. In that case, the user will see the food's nutritional value.

# Non - Functional Requirements

**Usability**

The system shall allow the users to access the system with pc using web application. The system uses a web application as an interface. The system is user friendly which makes the system easy

# Availability

The system is available 100% for the user and is used 24 hrs a day and 365 days a year. The system shall be operational 24 hours a day and 7 days a week.

# Scalability

Scalability is the measure of a system's ability to increase or decrease in performance and cost in response to changes in application and system processing demands.

# Security

A security requirement is a statement of needed security functionality that ensures one of many different security properties of software is being satisfied.

# Performance

The information is refreshed depending upon whether some updates have occurred or not in the application. The system shall respond to the member in not less than two seconds from the time of the request submittal. The system shall be allowed to take more time when doing large processing jobs. Responses to view information shall take no longer than 5 seconds to appear on the screen.

# Reliability

The system has to be 100% reliable due to the importance of data and the damages that can be caused by incorrect or incomplete data. The system will run 7 days a week. 24 hours a day.