NUTRITION ASSISTANT APPLICATION

ABSTRACT:

# The ease with which food is being delivered at our doorsteps has lead to an outbreak of a major chronic disease known as obesity. As the necessity of the food arose among people, the apprehension related to their diet also simultaneously increased. In this paper we propose a calorie measurement system whereby the user is made to upload the image of food item and as a result, number of calories present in the uploaded food image will be predicted.

# Using our application user can follow his/her diet routine, can maintain their fitness with ease.

LITERATURE SURVEY:

# Evaluation of an Electronic Application for Nutritional Information in Food Service Outlets: A Pilot mHealth Application

# Technological solutions provided to consumers with the aim of nutritional information, could be a major challenge of interaction among caterers and consumers. The purpose of this paper is to evaluate an Electronic Intelligent System of Personalized Dietary Advice called "DISYS" for tablets and smart-phones. This application provides nutritional analysis of menu items and personalized suggestions according to the nutritional demands of each customer. The DISYS application was characterized as an easy-to-use, comprehensive and useful tool. Volunteers consider that this application contributes to overall health by enabling the modulation of body weight throughout healthier choices, reduction of calorie intake and self-monitoring. Application of mHealth as such, designed to provide nutritional information, seems to be useful for customers as they recommend appropriate nutritional options. They seem also to be an effective tool for caterers and nutritionists, who can provide value-added services.

# Reference: https://www.researchgate.net/publication/311995942\_Evaluation\_of\_an\_Electronic\_Application\_for\_Nutritional\_Information\_in\_Food\_Service\_Outlets\_A\_Pilot\_mHealth\_Application

1. Real-Time Mobile Food Recognition System

We propose a mobile food recognition system the purposes of which are estimating calorie and nutritious of foods and recording a user's eating habits. Since all the processes on image recognition performed on a smartphone, the system does not need to send images to a server and runs on an ordinary smartphone in a real-time way. To recognize food items, a user draws bounding boxes by touching the screen first, and then the system starts food item recognition within the indicated bounding boxes. To recognize them more accurately, we segment each food item region by GrubCut, extract a color histogram and SURFbased bag-of-features, and finally classify it into one of the fifty food categories with linear SVM and fast toookernel. In addition, the system estimates the direction of food regions where the higher SVM output score is expected to be obtained, show it as an arrow on the screen in order to ask a user to move a smartphone camera. This recognition process is performed repeatedly about once a second. We implemented this system as an Android smartphone application so as to use multiple CPU cores effectively for real-time recognition. In the experiments, we have achieved the 81.55% classification rate for the top 5 category candidates when the ground-truth bounding boxes are given. In addition, we obtained positive evaluation by user study compared to the food recording system without object recognition.

Reference: https://www.cv-foundation.org/openaccess/content\_cvpr\_workshops\_2013/W03/html/Kawano\_Real-Time\_Mobile\_Food\_2013\_CVPR\_paper.html