

# Nutrition Scanner Project Report

By Karansinh Thakor

University of Massachusetts Lowell

karansinh\_thakor@student.uml.edu

## ABSTRACT:

Counting calories alone each day is not adequate. Doing so can prove ineffective and discouraging. Nutrition Scanner application provides the user the ability to scan food product and get results of nutritionists. This application keeps a record of all images captured by the user and its results. It is easy to use and provides most accurate results. Nutrition Scanner is a first-of-a-kind food analyzer offering valuable information such as nutrition facts, allergens, and chemicals, about foods using ordinary smartphones. It helps users to eat right and make healthier food decisions, get nutrition info for foods and drinks, keep track of what you eat, and sync your eaten foods with Database.

## PROPOSED APPLICATION:

I decided to develop an application to get food nutrients by just scanning the food image using a mobile camera. Nutrition Scanner scans the food image and gets details about the captured food. It may to may not provide accurate information but for most part it will work. Nutrition Scanner can be used for multiple purposes like keeping track of food consumed by the user, the number of calories consumed per day, diet plan and restrictions. Currently, I have tried to developed basic feature but for the future work, it can be developed to some extent that user can use it on daily basis.

## TECHNOLOGY USED:

I have used the following technologies for developing Nutrition Scanner.

- ❖ Ionic 3
  - Ionic is the open-source mobile app development framework that makes it easy to build top quality native and progressive web apps with web technologies.
  - Ionic is based on Web Components and comes with many significant performance, usability, and feature improvements over the past versions.
- ❖ Node.js
  - Node.js® is a JavaScript runtime built on Chrome's V8 JavaScript engine. Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient. Node.js' package ecosystem, npm, is the largest ecosystem of open source libraries in the world.
- ❖ Google Cloud Platform
  - Google Cloud Platform, offered by Google, is a suite of cloud computing services that runs on the same infrastructure that Google uses internally for its end-user products, such as Google Search and YouTube.
- ❖ Firebase
  - Firebase is a backend platform for building Web, Android and IOS applications. It offers real time database, different APIs, multiple authentication types and hosting platform.
- ❖ USDA Food Composition Database
  - USDA Food Composition Databases provides support to application developers wishing to incorporate nutrient data into their applications or websites.

## SYSTEM REQUIREMENT:

A user must require Android or iOS device to run this application. Additionally, internet connection is required to get the data from the server.

## DEVELOPMENT STATUS:

Currently, I have developed the basic features like capturing food image by a user and getting food names from the server. Development of mobile application took much of my time and initially I was facing some errors. After basic setup, it was all running.

This application is getting details of the food images scanned by a user. My next step is to use nutrients details from USDA Food Composition Database.

USDA food database API provides nutrients details based on the food id. One difficulty is that I have to get NDBno number by food name(ex: for cheddar cheese NDBno is 01009).

And food name should be more related to USDA database.

For this problem, I have decided to develop one server which associates my application food name to USDA database food name and after getting an id, I can use this id to get nutritionists from USDA database.

#### **FUTURE WORK:**

After incorporating USDA Food Composition Databases API in my server, i want to provide full functionalities to the user like keeping track of all food images captured by user on basis of day(date and time), creating an account on an application(Google and Facebook Login), sharing their diet plan to other users and much more.