

LITERATURE SURVEY

INTRODUCTION

Nutritional support is the provision of adequate nutrients to maintain a healthy body weight and avoid malnutrition. The continuous delivery of high-quality and cost-effective nutritional care to patients have been shown to be an increasingly difficult task. It is observed that dieticians are requested to carry out the nutritional assessment, to manually calculate the nutritional needs and to design the everyday meal plan for each patient. In most cases, these time-consuming tasks are not completed due to lack of time or inadequate number of personnel. Development of a computer assisted information tool with cloud-based on-line diet consultation module and comparison of its efficacy with one- to-one counseling would be efficiently utilized for client education intervention programs.

USE CASE

Due to the ignorance of healthy food habits, obesity rates are increasing at an alarming speed, and this is reflective of the risks to people's health. People need to control their daily calorie intake by eating healthier foods, which is the most basic method to avoid obesity. However, although food packaging comes with nutrition (and calorie) labels, it's still not very convenient for people to refer to App-based nutrient dashboard systems which can analyze real-time images of a meal and analyze it for nutritional content which can be very handy and improves the dietary habits, and therefore, helps in maintaining a healthy lifestyle.

This project aims at building a web App that automatically estimates food attributes such as ingredients and nutritional value by classifying the input image of food. Our method employs Clarifai's AI-Driven Food Detection Model for accurate food identification and Food API's to give the nutritional value of the identified food.

EXISTING SOLUTIONS

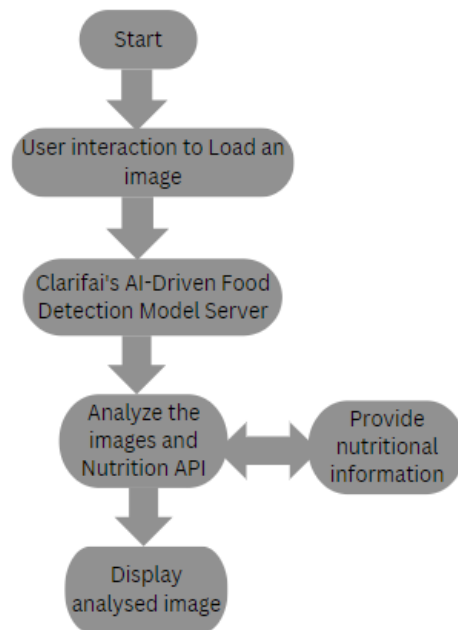
The existing tool can be designed & developed as a mobile app for Mobile devices or a web based application for computers. As per latest studies on the market, the total users of Android application/Mobile phones across the world has crossed 190 million & one of the fastest growing markets for the same is ASIA with 34 million users & growing. This is going to be our target audience. The existing solution helps a user to make use of online counseling in a personalized chat room with data recording facility for references. He can plan his diet & modify nutritional inputs as per the nutritional assessments. He can plan the diet with various application modules integrated in the solution. In the case of mobile apps, the users can avail these services as a dedicated app to be used in a mobile phone/ tablet PC's that is downloadable from app stores. Live chat rooms, FAQs for quick appraisals as well as inferences from case studies can be made available in the CAI. Provision of chat rooms for live chat can be used with schedule requests. Details of appointments & confirmation/ cancellation will happen online.

Automatic and nutrition requirements generally employed with tools such as computerized systems, mobile based systems and other such technologies which are more personalized and handy to the users. The wireless infrastructure based devices can collect data for a long period of time. In cloud computing with its immense computation power for easy deployment of healthcare monitoring algorithms and helps to process sensed data. Cloud computing is one of the new approaches in distributed systems that can handle some of the challenges of smart healthcare in terms of security, sharing, integration and management. The major types of nutrition computer programs pertain to nutrient analysis, food service and recipe management, menu planning, clinical nutrition, drug-nutrient interactions, health risk assessment and lifestyle prescription, food and nutrition education and games. In addition to programs specific to their field, nutrition educators are also assisted by general production tools such as graphics packages, computer photo and clip art collections and presentation software. Programs to educate patients provide dietary information and teach about causes of disease, symptoms, complications, dietary management and menu planning. It is expected that the nutrition counseling management system can improve national health with animated nutrition counseling.

- Customized and easy to access user Interface.
- Can create a profile with Setting goals & keeping checkpoints with alarms.
- Individual Chat rooms with options of fixing appointments for counseling.
- Offers multiple options available as per the Nutritional assessment
- Options of capturing data from counseling session for future references
- Counseling for disease oriented diet plans like Ketogenic diet etc.

- Suggest diet plans as per available raw materials.
- Calorie counter for selected food item
- Alternative dish with required calories
- Recorded health history.
- Calorie values of more than 3000+ International & Indian cuisines
- Interesting foot notes on selected food items

STUDY DESIGN



CONCLUSION

Program	Year begun ¹	FY 2002 costs ²	FY 2002 participation ²
		<i>\$ millions</i>	
National School Lunch Program (NSLP)	1946 ³	6,857 ⁴	28,006,873 lunches per day
Special Milk Program (SMP)	1955	16	112,781,614 total half pints
Commodity Supplemental Food Program (CSFP)	1968	110	427,444 participants per month
Summer Food Service Program (SFSP)	1968	263	121,865,417 total meals and snacks
Food Stamp Program (FSP)	1974	20,677	19,099,524 participants per month ⁵
Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)	1975	4,319 ⁶	7,490,841 participants per month
School Breakfast Program (SBP)	1975	1,566 ⁴	8,144,384 breakfasts per day
Nutrition Services Incentive Program (NSIP) ⁷	1975	152	252,748,643 total meals ⁸
Nutrition Education and Training Program (NET)	1977	0	0
Food Distribution Program on Indian Reservations (FDPIR)	1977	69	110,122 participants per month
Child and Adult Care Food Program (CACFP)	1978 ⁹	1,852 ⁴	1,691,448,979 total child meals and snacks; 44,570,764 total adult meals and snacks
Nutrition Assistance Program in Puerto Rico, American Samoa, and the Northern Marianas (NAP)	1981	1,362 ¹⁰	Not available
The Emergency Food Assistance Program (TEFAP)	1981 ¹¹	435 ¹²	611 million total pounds of food distributed
WIC Farmers' Market Nutrition Program (FMNP)	1992	25 ¹³	2+ million total participants ¹³
Team Nutrition Initiative (TN)	1995	10 ¹⁴	Not available
Senior Farmers' Market Nutrition Program (SFMNP)	2002	13 ¹⁵	Not available

The above survey describes the number of programs that were conducted in different parts of the world in different years in order to lead a healthy life, so that people will avoid obesity and also don't lack in the amount of nutrients they take in. But due to various reasons which include lack of awareness and the busy work schedule, these types of programs are not as effective as expected. In order to overcome this difficulty, with the help of the trending technologies, a lot of applications have been developed as an assistant in analyzing the nutrients in mobile phones. Among them we are going to come up with a project named nutrient assistant application with the help of cloud technology which will be more effective than the application developed using AI and ML. So by implementing this type of solution, all the people will benefit from sitting in their comfort zone.

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