Android Application for Diabetes Diet

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Abstract **-** A diabetes diet medically known as medical nutrition therapy (MNT) for diabetes simply translates into eating a variety of nutritious foods in moderate amounts and sticking to regular mealtimes. Rather than a restrictive diet, a diabetes diet or MNT is a healthy-eating plan that's naturally rich in nutrients and low in fat and calories, with an emphasis on fruits, vegetables and whole grains. In fact, a diabetes diet is the best eating plan for most everyone. To guide you on dietary changes and MNT that can help you control your blood sugar (glucose) level and manage your weight.

When you eat excess calories and fat, your body responds by creating an undesirable rise in blood glucose. If blood glucose isn't kept in check, it can lead to serious problems, such as a dangerously high blood glucose level (hyperglycemia) and chronic complications, such as nerve, kidney and heart damage.

Making healthy food choices and tracking your eating habits can help you manage your blood glucose level and keep it within a safe range. For most people with type 2 diabetes, weight loss also can make it easier to control blood glucose and offers a host of other health benefits. If you need to lose weight, MNT provides a well-organized, nutritious way to reach your goal safely.

Knowledge about the right food, in the quantity, at right time is the key to health and wellness. Dietician project is an android application about human diets. It acts as a diet consultant similar to a real dietician.

Thus we are going to introduce an application "Diabetes diet". In this application all the information is going to be taken from the user and according to which an appropriate plan will be provided.

We have searched for the lots of applications related to the diet, all the applications are related to the diet for the users who are physically fit. That is those who are not suffering from any disease. The application provides diet plans, food, etc.

A person in order to know his\her diet plan needs to give some information to the dietician such as its bod y type, weight, and height and working hour details. Similar way this system also provides the diet plan according to the information entered by the user.

I. INTRODUCTION

An android app is a software application running on the android platform. Because android platform is built for mobile devices. Using this android platform we are going to develop an application for diabetes. On track diabetes is easy to use for those looking to track their blood glucose level. The app provides the option of tracking other factors that may affect blood glucose, such as food choices, weight and hemoglobin. According to the users need the app will provide appropriate plans.

Diabetes

Diabetes is a disease that affects your body's ability to produce or use insulin. Insulin is a hormone. When your body turns the food you eat into energy (glucose), Insulin is released to help transport this energy to the cell. Insulin acts as a "key". Blood glucose levels are higher than normal individuals with diabetes. Diabetes has main two types: Type 1 and Type 2.

Type 1

When you are affected by type 1 diabetes your pancreas does not produce insulin is also called as juvenile diabetes. It also often diagnosed in children or teens. This type accounts for 5-10% of people.

Type 2

In this type body is unable to produce enough insulin or cells are unable to use which is also called as insulin resistance. This is commonly called as "adult onset Diabetes".90-95% of people with diabetes have this type.

Diet

The kind of food that a person, animal or community habitually eats .OR A special course of food to which a person restricts themselves either to lose weight or some medical reason. The word diet often implies the use of specific intake of nutrition for health or weight management reasons. Although humans are omnivores, each culture holds some food preferences or some food taboos. This may be due to personal test or ethical reasons.

Objectives

In this project when user installs the app food database also get installed. Then users are going to create their profile. According to input application will provide the diet plan to the user .also application will provide notifications to the user. After following the diet plan user will insert the new results. Then this result is get analyzed in the application to maintain the sugar level.

II. EXISTING SYSTEM

The diabetic person uses the way to visit the doctor for the regular checkup, and ask to the doctor for the diet plan. Every time the patients have to visit to the dietician sometimes the patient don't have time to visit.

Drawbacks of Existing System:

- Every time patient wants to meet the dietician.
- Poor management as an information source.
- Time consuming.

III. PROPOSED WORK

Dietician project is an android application about human diets. It acts as a diet consultant similar to a real dietician. This system acts in a similar way as that of a dietician. A person in order to know his\her diet plan needs to give some information to the dietician such as its body type, weight, and Height and working hour details. Similar way this system also provides the diet plan according to the information entered by the user. The system asks all his data from the user and processes it to provide the diet plan to the user. Thus the user does not need to visit any dietician which also saves time and the user can get the required diet plan in just a click.

The system will give more accurate results as it accepts the data entered by the user and process it depending on some metrics already known to the application on the basics of which a diet plan is generated and ask the user if the user accepts the diet plan. If not accepted the system may also give and alternative diet plan. We are going to do this project in three modules which are as follows:

Design Approaches:

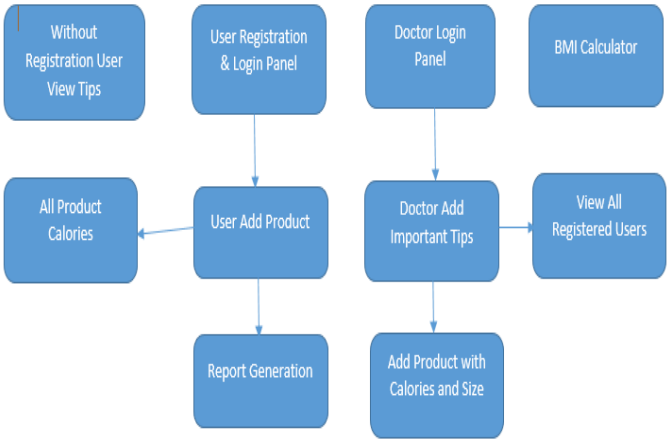

Fig.1: System Design

Module 1:

In this module no. of doctors are able to login. After login doctor is going to add some tips. Doctor can add the products and calories of the product. Doctor is also able to see all the users. All added products are visible to the doctor.

Module 2:

First when the user is going to login to the application we are going to create a new account. While creating a new account the information is going to be taken. The information which is taken that is related to the human health. Information like name, height, weight, gender, working hours, type of work, type of food the overall look on the daily routine.

Module 3

After doing the registration user has to login to the app for further processing. In this the user is also able to see the report of the diet plan which he/she is following.

Module 4

Once the information is taken from the user according to that further designing is performed. First the BMI is calculated. According to the sugar level and the BMI suitable diet plan is created. We are going to provide two or three diet plans. According to the user's convenience he or she can use. We are going to provide the timers after regular intervals.

Module 5

After login to the account Doctor is able to see the users BMI and other information. According to that information Dr will provide some useful tips to the user. Now tips can see every user who is using this application. This is very helpful in day to day life.

IV. METHODOLOGY

Methods for developing android application for diabetes diet: For calculation of calories we require two formulas:

BMR (Basal Metabolic Rate)

Basal metabolism is the amount of energy your body uses when it is completely at rest - it's simply the energy needed to operate your organs and keep you alive each day without taking any physical activity in to account.

Formula for BMR:

For men=66+(13.8*wt. in kg) + (5*ht. in cm) – (6.8* age in years).

For women=665+ (9.5*wt. in kg)+ (1.9*ht. in cm) – (4.7* age in years)

Daily calories=BMR*Activity factor.

Table: BMR Activity and Factor

Activity	Activity Factor
No exercise	1.2
Light	1.3
Moderate	1.6
Heavy	1.9

BMI(Body Mass Index)

Body Mass Index is a calculated number representing a person's level of fat or obesity level.

Formula for BMI: Weight in kg/Height in meter sq.

We selected these diabetes apps based on their potential to help people manage their diabetes in a number of ways. Additional factors considered in selecting these apps included user ratings, affordability, accessibility, format, functionality, and relevance to diabetes and the needs of people who have diabetes. Together, this collection represents a valuable cross section of helpful Android apps that are designed to help users understand diabetes and find ways to manage their condition.

In this system after giving input to the application it will prepare the diet plan for user. After preparing the diet plan users are able to view the plan. after using this diet plan results are stored into the SD card. Suppose the 1st diet plan is not applicable for particular user then alternate diet plan will be given to that user. After confirmation of diet plan notification are provided to the user. SQLite database is used for storing the information, which is inbuilt in android devices.

V. REFERENCE

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