

E-DIETAL: An Android Health Application

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Abstract— We have developed an android application such that one can focus on their health with ease. Our application does not only focuses on weight; it is about having a healthy life in a simpler way. Our application includes functions which allow user to track their daily routines. Our application includes some tips which are useful for having a good diet. Our application provides you information about the nutritional foods which are necessary for health.

Key words: Health and longevity, specific intake of nutrition, Proper nutrition and absorption of vitamins, minerals, and energy

I. INTRODUCTION

Dietary habits are the habitual decisions an individual or culture makes when choosing what foods to eat. The word diet often implies the use of specific intake of nutrition for health or weight-management reasons (with the two often being related). Although humans are omnivores, each culture and each person holds some food preferences or some food taboos. This may be due to personal tastes or ethical reasons. Individual dietary choices may be more or less healthy. Proper nutrition requires ingestion and absorption of vitamins, minerals, and food energy in the form of carbohydrates, proteins, and fats. Dietary habits and choices play a significant role in the quality of life, health and longevity. It can define cultures and play a role in religion A good, balanced diet is just as important as exercise when it comes to clean, healthy living. Our app can help you stay on the straight and narrow. For example, check out these eight excellent diet and nutrition trackers that help you shop for healthy food, log your nutrition intake and help you pick and choose a healthy diet plan. E-Dietal helps you set a daily calorie budget, track your food and exercise, and stay motivated to make smarter choices and achieve your goal. E-Dietal is based on the principles of calorie tracking and peer support for healthy, sustainable weight loss & weight gain.

In our E-Dietal app we are going to implement the models:

- 1) Stepometer
- 2) Exercise
- 3) Food Intake
- 4) Temperature

which is useful for each & every individual to maintain the health properly. E-Dietal app will provide the basic information using which everyone (from age group 5-90) can maintain healthy life by following all the steps which are provided.

II. PROPOSED SYSTEM

To overcome the drawback of existing app we have developed E-Dietal app using Eclipse editor. A good, balanced diet is just as important as exercise when it comes to clean, healthy living. Our app can help you stay on the straight and narrow. For example, check out these eight excellent diet and nutrition trackers that help you shop for

healthy food, log your nutrition intake and help you pick and choose a healthy diet plan. E-Dietal helps you set a daily calorie budget, track your food and exercise, and stay motivated to make smarter choices and achieve your goal. E-Dietal is based on the principles of calorie tracking and peer support for healthy, sustainable weight loss & weight gain. Our application includes following functions

A. Stepometer

For good health, it is always recommended walking is a good habit. Walking about an hour or some is a good daily exercise. Walking is not beneficial only for people having health problems, it is beneficial to maintain your health in every way you can. Walking does not cost us anything just a matter of time. Still in this busy schedule, some of us may not be able to find separate time for such activity. For such the no. of steps they walk daily can be taken into consideration. The stepometer function is used to count the no. of steps the user walks. As it is difficult to maintain the count of no. of steps walked in a day; Even if someone manages to keep the record for a day; keeping a record for no. of days is a very difficult task to do for an individual. If technology can do such work for you at your fingertips, it is unnecessary to waste our time. We provide this feature for such users so that they can keep track of their daily routines with just our application in their phone.

B. Food

It is an important factor related to one's health. Food intake is an important aspect as it relates directly to your weight factor. The amount of food we take is as important as what type of food we take. In this, the quality as well as the quantity matter a lot for proper diet plan. The diet plan is not always about eating less or nothing on daily basis. It is all about eating nutritional, hygiene food with the right amount and at proper intervals. We provide you functionalities such that you can keep a track of your daily intake.

We provide many options as which food item includes how much calories or nutrition or vitamins .That actually helps a lot planning and monitoring your daily diet.

There is a drop down list of no. of foods depending on religion or culture. The food you take you can just click on it and enter the quantity for the same. u will itself do everything else for you. It will calculate the amount of calorie or vitamin you took Simplifying, it specifies your daily intake of calories, vitamins and needful other things The best thing about it is, you don't need to remember or calculate how much a food item counts how much calorie or it includes how much vitamins.

You just need to simply select how much you had the entire day. It will provide you with the result about the total amount of each thing.

C. Exercise

Many of us worry about our body weight whether you are underweight or overweight. Being underweight is even a serious problem. Even though many of don't look at it as a

problem, proper nutrition is always need of human body. The problem may vary from person to person, but doing exercise an hour every day is advisable for maintaining good health. Exercise is not only meant for people who are having any health related issue. Exercise is a good habit for maintaining health in a good way. Even doctors suggest "Everyone should exercise at least half an hour a day", as it stretches the muscles and improves your health. Our application provides variety of exercise routines for user. There are many categories depending on factors as weight, age, height.

It gives detail description of every workout plan and exercise. As there are variety of options available user is free to choose any of them. User can do it on its own by analyzing the details of the required exercise.

D. Sleep

The next very important factor about health is sleep. Mainly people ignore this factor and they do all other possible unnecessary things (supplementary stuff). The main part of your daily routine i.e. sleep should be adequate. Doctors say, a normal person needs minimum of 8 hrs of sleep in a day. In today's world everyone is so occupied with tight schedule whether its employee of any company or student pursuing his courier. Everyone is tie up with such a tight schedule that they even forget that rest is the need of body.

If you are following any workout plan, you are giving extra efforts towards the exercise; you need to have more rest than usual.

It is always good to exercise as it involves muscle movement. Rest is as important as exercise. Your body needs rest after doing so much of work in a day. The amount of sleep required may vary from age to age. In an average, the minimum amount of sleep everyone should take is 8 hrs. Our application involves this module as many people ignore to rest their body. It gives you the amount you need to sleep. While you are slept it calculates the amount of time you slept. Also provides an alert box if you are not having rest as per your requirement.

E. Weight

Now-a-days, it has become a major concern about the ideal weight of a person. People are more concerned about their health from now to then; which is a very good sign. The weight of a person should be proper as per his height, weight and age. Our application provides even that facility to you. It includes how you can control or maintain your weight. There are many solutions for the same. Some may affect your health. We provide you the proper planning for weight management. Eating healthy food at proper time and exercise is a key to maintain proper health.

III. ADVANTAGES

- 1) Consume a variety of nutrient-dense foods within and across the food groups, especially whole grains, fruits, vegetables, low-fat or fat-free milk or milk products, and lean meats and other protein sources.
- 2) Limit the intake of saturated and trans fats, cholesterol, added sugars, sodium (salt), and alcohol. Limit caloric intake to meet caloric needs.
- 3) Prepare more of your own meals. Cooking more meals at home can help you take charge of what you're eating

and better monitor exactly what goes into your food. Make the right changes.

- 4) When cutting back on unhealthy foods in your diet, it's important to replace them with healthy alternatives. Replacing animal fats with vegetables fats (such as switching butter for olive oil) will make a positive difference to your health.
- 5) Switching animal fats for refined carbohydrates, though (such as switching your breakfast bacon for a donut), won't lower your risk for heart disease or improve your mood.
- 6) Drink plenty of water. Water helps flush our systems of waste products and toxins, yet many people go through life dehydrated-causing tiredness, low energy, and headaches. It's common to mistake thirst for hunger, so staying well hydrated will also help you make healthier food choices.

IV. SYSTEM ARCHITECTURE

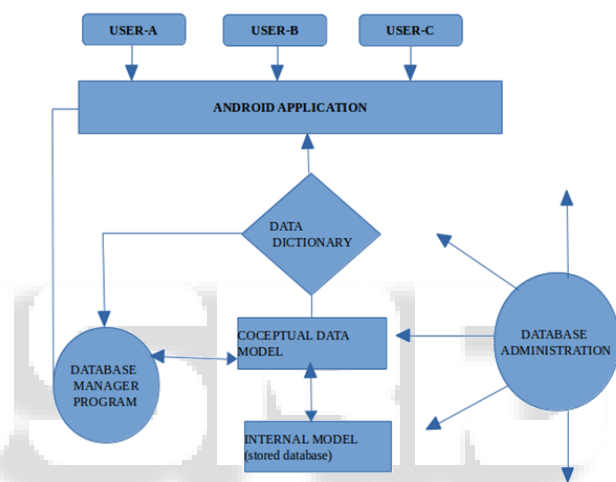


Fig. 1: System Architecture

A. System Admin

In admin module, first the admin has to log on to the system, then user sees whether he has to add a new user or delete an old user. If the admin has to make an new account he checks whether the given documents of the user is legal or not if yes then the user is added to the system. After creating a new account the user will provide all the necessary input to maintain proper health.

B. E-Dietal(Android Application)

We provide multiple functions for user to track their daily schedule. One of the functions is stepometer which counts the no. of steps or the distance covered by the user. For this purpose we use accelerometer sensor of the user's mobile phone. According to change in user location the count is incremented. The count is maintained for each user on daily basis. There are also other functions such as exercise, food sleep, and weight according to which the user can maintain his/her health.

C. Android Application

Android application acts like an interface between server and the desired user. It retrieves data from the web server and displays it on the mobile phone of the user. It maintains connectivity with the web server.

D. Database Manager Program

It is used to maintain the connectivity between the Client User Interface(TIER I) and the database (TIER III). Server is important as it retrieves the result set from database and works on that result set due to which better response time can be achieved.

E. Database

It is the back-end where all the information is stored. It is maintained and monitored by the admin who can add any new user or delete an old user and used to maintain data for individuals.

F. User

User logs in to the system through the android application using the user name and password provided by the admin through mail. User selects the activity according to his/her process needs depending on the activity user performs further

G. Data Dictionary

A data dictionary is a collection of descriptions of the data objects or items in a data model for the benefit of programmers and others who need which users interact is to identify each object and its relationship to other objects. This process is called data modeling and results in picture of object relationship. After each data object or items is given descriptive name, its to refer to them.

H. Conceptual Data Model

A Conceptual data model is the most abstract form of data model. It is helpful for communicating ideas to a wide range of stakeholders because of its simplicity.

V. TECHNOLOGIES USED IN THE PROPOSED SYSTEM

We have used following technologies for implementation of our application:-

A. Accelerometer Sensor

Accelerometer Sensor is an in-built sensor in almost every smart phone used today. The Android phone has a three direction accelerometer sensor that reads the changes in speed along three axis (x ,y and z). Program using the accelerometer reads this information to gives the phones orientation in spaces or the phone changes in speed and direction. In addition, the gravity type for the phone can be changed based on gravitational pull on different heavenly bodies (Earth, Moon, Mars, Jupiter....).

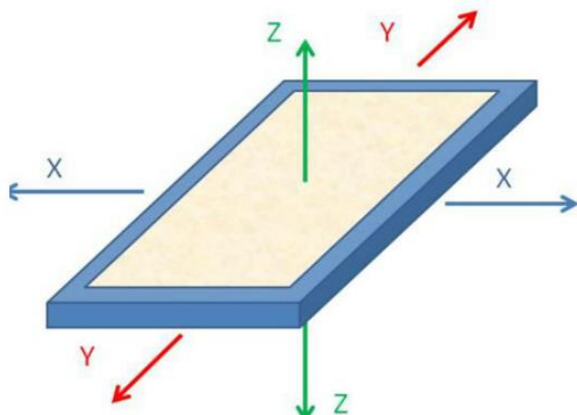


Fig. 2: Acceleration Values

This Application will use the accelerometer to display the X, Y and Z values and use the Y value to calculate and count the steps a user takes while carrying the phone in their pocket. The App will also have a seekBar object to set the sensitivity of the change in values on the Y-axis during a step or shake.

B. Eclipse Emulator

ECLIPSE is an oil and gas reservoir simulator originally developed by ECL (Exploration Consultants Limited) and currently owned, developed, marketed and maintained by SIS (formerly known as GeoQuest), a division of Schlumberger. The name ECLIPSE originally was an acronym for "ECL' s Implicit Program for Simulation Engineering". Ian Cheshire was the team leader.

ECL was, as its name implied, an exploration oriented consulting firm. Ted Daniels, CEO and Chairman of ECL, decided to expand into reservoir engineering in order to broaden the base of the company and to avoid the cyclic downturns in exploration based revenues, and specified the requirements for corner point geometry in order to better model the subsurface geology. That and the implicit technology enabled ECLIPSE to set new standards in reliability, stability and accuracy for reservoir simulators. ECL had previously been awarded the Queens Award for Exports and, based upon the success of ECLIPSE, was subsequently awarded the Queens Award for Technology.

VI. CONCLUSION

In Project-I, we have implemented Home page, Login page Stepometer of our android app called E-DIETAL. Our application comprises of main functions such as weight, sleep, stepometer, food, each with its own contribution to our application E-DIETAL. Our application is basically very beneficial for users such that to maintain their health in a better way. The stepometer fuction provides to keep track of no. of steps or distance covered by user. While, Food function involves the amount and type of food user eat on daily basis. As per that it calculates the amount of calorie, vitamins, calcium or other healthy elements consumed by user. Exercise includes the schedule for your exercise. Categories are made according to type of exercise plan as per individual needs. The sleep function tracks the amount of sleep you had and an ideal amount of sleep you should take (as rest is even an important factor towards healthy life). In Project-I, we have completed the implementation of home page, Login page and the stepometer function that uses GPS to locate user. Using its location it counts the no. of steps user walked or the distance covered.

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