AN ANDROID BASED FITNESS AND NUTRITIONAL PLAN APPLICATION

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ABSTRACT

Smart phone has been widely used as an ideal assistant for health and fitness. In this paper, we proposed a mobile application for fitness monitoring can help users to become more aware of their health. This application aims to track user's workout activities and monitor and analyze user's health condition. This is an application of physical exercise that will generate output that will help users to determine the BMI (Body Mass Index) level which will differentiate their body type, the time to exercise and types of exercise, Weekly Diet plan. On the basis of User's Body type i.e underweight or overweight we provide diet plan ,Exercises accordingly. Objective of this project is to design a smart fitness application system which will record users' indoor fitness routine by minimizing the hassle especially of weight exercises.

Keywords*: Diet plan; fitness; personal trainer; physical activity, Android.*

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1. INTRODUCTION

Exercise is an important contributor to physical and psychological well-being. Regular exercise reduces many chronic diseases, such as heart/cardiovascular diseases, diabetes, hypertension, obesity, etc. Also, according to a study by Institute of Health Metrics and Evaluation (IHME), percentage of Indians living with obesity will go up to 5 percent in 2025. Due to widespread of fitness in today's society, fitness apps are on a boom. Most of them focus on tracking cardio (running) exercises. Recently, a variety of mobile applications that aim to improve users' physical condition have emerged and many of them facilitate quick and efficient planning of physical training . Likewise, there is an increasing number of mobile applications targeting the health domain. In 2014 between the two leading platforms, i.e., iOS and Android, more than 100,000 mobile applications available are related to the health

domain. Exercise is the major option to prevent disease and illness, to gain better heath and to maintain, consumers have more concerns about their health.Thus, healthcare is increasingly considered for better quality of life.

There are various applications accessible for download from the online Google play store. Ordinary a large number of new applications are transferred in their online database. Our developed application which runs on the android platform is customizable and user friendly.

The main aim of this project is to facilitate people in Fitness, Exercising, sharing and improving their knowledge regarding personal fitness/health with friends and family. At the meantime, this app provide them Diet plans, selfcare, tracking their own health through monthly statistics, as well as also help to balance their mental health. People need to get involved in one activity or another to ward off diseases, improve quality of life, control body weight and keep fit at all times. It has been proven that eating a balanced diet alone is not enough for body fitness. Performing a regular exercise for different parts of the body would keep the muscles of the body in healthy condition and good shape.

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2. RELATED WORK

Applications that manage wellness have become some of the most popular downloads for smartphones today. These apps commonly track various types of user inputs such as exercise, sleep and other health habits. Each of these apps has a unique way of expressing data to the user, and some methods have proven more effective than others.

2.1 Moves :

Moves is a mobile application that automatically tracks a user's movement and location throughout the day and displays it in a timeline format. The app counts the number of steps taken per day, as well as the number of calories burned and the distance the user walked. Key places are recognized, and unrecognized places can be given a name by the user that will be remembered by the app. These travels are tracked and displayed on a map and timeline over the course of the day. To continue motivating a healthy lifestyle, the user is able to set goals for the number of steps he or she wishes to take throughout the day. In addition, a record can be kept of various exercises or activities that were performed that are unable to be automatically tracked by the app (such as gym workouts or various sports where the user may not carry their device). All of the information gathered about the user is easily sharable with other apps.

One limitation of the Moves app, is that it only tracks movement. This is not consistent with the plan for our wellness app, as our goal includes Diet packages and workout exercises as well.

2.2 Argus :

Argus is a another wellness app with a number of motion and life tracking features. Unlike Moves, which can only monitor movement, Argus features the ability for the user to create and track custom step and workout goals. It has a somewhat customizable main screen, where the user can display a pedometer and distance walked, reminders, as well as information about friends also using Argus. This app allows the user to set reminders to drink a glass of water or walk more throughout the day. Users are urged to connect with their friends on the app in order to gain motivation to strive towards a healthy lifestyle. This app can be linked to other "sister" apps that are able to

track sleep and create more in-depth workout plans. All of these activities can be viewed in a graph format over days, weeks, months, or years.

The main display screen in the Argus app is not easily interpretable. it makes it very difficult to see which information goes with which days, as they are all displayed together in this tiled format.

2.3 Sworit :

Videos demonstrating what you have to do, Adjustment of workout time to suit your time requirements. Different types of fitness to work on (cardio, yoga, stretching, strength).You can listen to music while working out. The app shows you how many calories you have burned at the end of your workout time. There are many exercises so you always have a variety, You can design your own workout with the exercises available .You can skip a task that may not be suitable for you or your fitness level. Circuit workouts covering different goals such as Strength, Cardio, Yoga, and more. Design your own custom workouts from a massive selection of exercises. Choose how long you want to exercise for – anything from five to sixty minutes.
The transitions between activities are sometimes a bit fast .You do not reach the minimum amount of physical activity by using this app unless you do multiple hours of intense exercises.

Design is one of the most important aspect when it comes to web development with this in mind, we came up with an idea of creating competition for web designers which can be used to organize competition for hiring web designers with ease When it comes to web designing competition, there is still no system proposed till now as we cannot automate it because of the color schemes and user experience checkpoints but we can make things simple for both users and moderators by providing solutions to their individual problems such as writing, analyzing and reviewing user designs. This competition system will have 3 easy to use code editors (HTML, CSS and JS) which will be most efficient in terms of speed due to code separation in client and server side. Output will be shown automatically as we write code that too within some seconds and one of the most important features of this system will be less hardware and software requirements (i.e., Only Browser).

3. PROPOSED SYSTEM

3.1 BMI index

While registration the user has to enter all his personal details from his name to his height and body weight and how much he exercises daily. The system will hence calculate users body mass index and let him know if he is fit or underweight or overweight and suggest a fitness plan and diet plan for user.

3.2 Diet Plan module

This module presents to the user the various meal plans for breakfast, lunch, and dinner based on the amount of calories needed by the person taking into consideration, age, type and nature of work, several favorite dishes for breakfast, lunch and dinner.

3.3 Exercise module

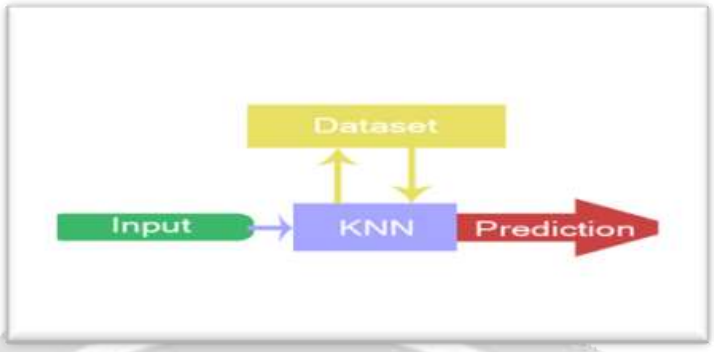
Exercise is any body activity that enhances physical fitness and / or maintains overall health and wellness. There are several reasons for exercise, for example, strengthening the cardiovascular system and muscles, weight loss, honing athletic skills and enjoyment. However, to evaluate and indicate the change of body after performing exercise will be shown in the monthly statistics.

3.4 Profile module

After registration or login steps the user can view and update profile information like Personal Info, Picture, Height, weight ,Age etc. Also including Monthly statistics , Posts ,and logout sections.

3.5 Algorithm

In this app, we used K-NN Algorithm which stores all the available data and classifies a new data point based on the similarity. This means when new data appears then it can be easily classified into a well suite category by using K-NN Algorithm.



K-NN Algorithm

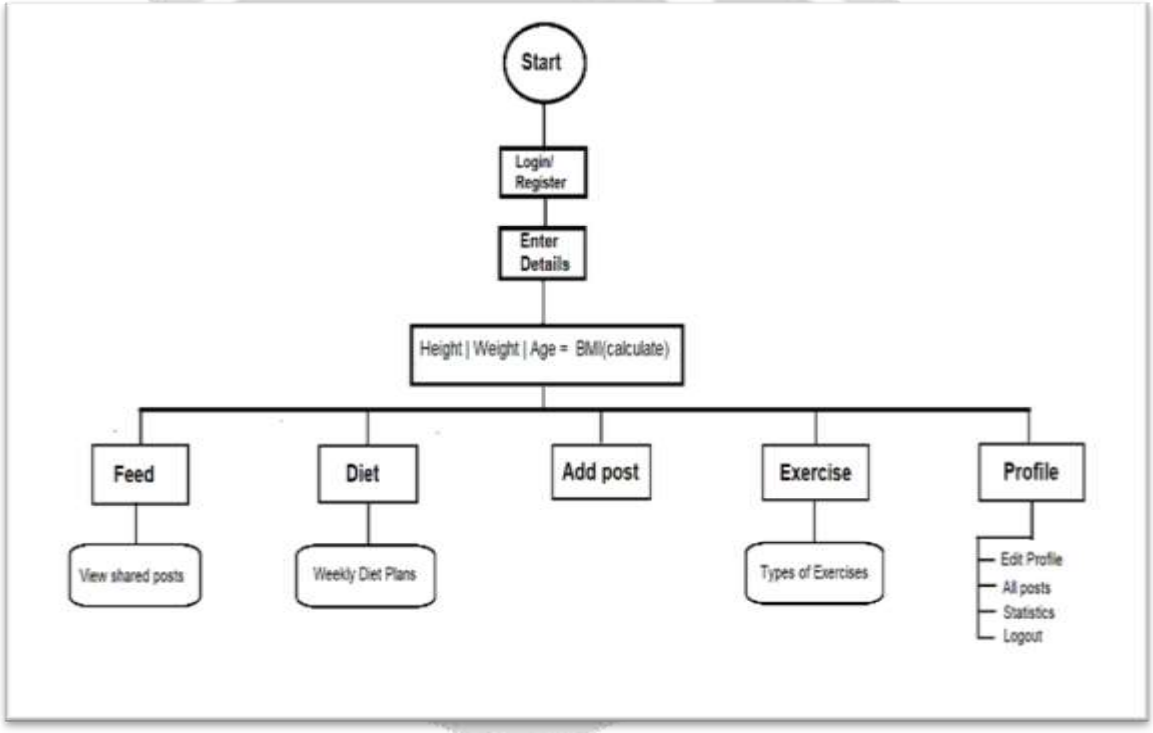


Fig. System Architecture

4. CONCLUSIONS

In today's world when no one has time to look after themselves because of their busy schedule out application aims at being a handy reminder to users to take care of their health and look after their fitness by aiming to be a personal health expert. It is a one click destination for user. It also provides analysis of workouts, Post to share ,Exercises,

Diet plans, etc. As the data can be shared with the users, Security measures need to be taken care of which can be implemented in future with the help of modern technology.

In this proposed system, We have discussed that How can mobile applications promote the health and well-being of the users. The essential features for these mobile applications are that user can use it anywhere ,anytime according to their availability and performing various tasks like home workout exercises, Scheduled Diet plans for both overweight and underweight person, Displaying monthly statistics etc.

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