

COUNT2BFIT– Calorie and Nutrition Tracker

Anagani Likhita¹, A Srikanth², G L Supraja³, Suresh babu dasari⁴ and Surapaneni Ravi Kishan⁵

¹⁻⁵Department of Computer Science and Engineering, Vijayawada, India

Email: {198w1a0565@vrsiddhartha.ac.in , 198w1a0568@vrsiddhartha.ac.in ,198w1a0579@vrsiddhartha.ac.in, dasarisuresh88@gmail.com , suraki@vrsiddhartha.ac.in}

Abstract—You may be willing to lose pounds for peculiar reasons or to improve your health. It can diminish your likelihood of certain conditions, such as heart strokes and diabetes. It can put down your blood pressure and overall cholesterol level. It also can soothe symptoms and reduce injuries related to being in the feel of overweight. There are several aspects that can influence your attempts to lose weight. These include making changes to your diet, exercise, and lifestyle. There are tools and ways to keep you on path. In addition to what to do, you should know what the things not to do are. The project purpose is to make a mobile calorie or nutrients counter application which is built on Android operating system. The application is progressed using a Rapid Application Development methodology, the Java programming language has been used to develop and deploy the system, while Firebase has been used for database development.

Index Terms— f Rapid Application Development, Java, Android operating system, calorie counter, Firebase}.

I. INTRODUCTION

Mostly often we tend to eat whatever is laid out on the plate before you, with none proper puzzling over the mixture of food we are consuming. Binge eating can stem from boredom or extreme emotions like euphoria or deep sorrow. Eating adequately up to the boundaries but not excessively can obstruct and control the onset of assorted debilitating diseases like hypertensive disorders, diabetes, weight gain and unintentional weight loss. So, portion control is extremely important because it allows you to possess a decent handle on what number of calories, you're presumably consuming. This way, you eat what your body needs, instead of mindlessly overindulging. By using this Mobile Application, you'll be able to have control over what you're eating and will know what are the nutritional factors that are inefficient for you retain up yourself healthy. This app can benefit the those that are tormented by the obesity or diabetes or pressure level by controlling the quantity of intakes on day to day and maintaining the closure diet. This app also comprises of step tracker and water intake to remain yourself fit.

According to many survey that are conducted on the health and diet conscious within the youth now a day's results that folks are keenly fascinated by knowing the nutritional factors present in their food and to form sure they're properly eating the food which match their nutritional requirements. then many kids have an interest in taking controlled diets rather that sweating their blood intent on slenderize and make it to their ideal weights Now a day's people showing interests on various diets like keto diets and mineral diets but they're unsure about meeting the results they wanted to. In such cases a mobile application which have the flexibility to count the nutritional factors in their food and know what major factor they're missing out There is no doubt that there are so many tasty foods out there on streets which are like magnets for the people and that they cannot control over their taste glands and slurp the food away. It is not a bad thing to eat but there must be a proper limit over what

you eat. With increase in cooking techniques and styles the quantity of variety food items that are emerging day by day are tremendously increasing and folks are huge fans to try out the new dishes whatever they are introduced to. All these cases only lead to the overindulging of food on daily basis. So, when you see back and think what you ate that day it is all a full picture of junk. But when you use this application and look back at the food you eat, calories you consumed and journal you maintained, can cause you control the additional number of calories you guzzled down before days by controlling the calories today.

II. LITERATURE SURVEY

Ponnuru Meghana et al. [1] proposed an idea about android studio that Android could be a software package for mobile devices like tablet computers and smart phones. The goal of android project is to form a successful real-world product that improves the mobile experience for end users. There are many versions of android like lollipop, KitKat, jelly bean, frozen dessert sandwich, froyo, eclair, donut etc. Android studio replaced eclipse because the main IDE for android development. With this transformation Google has revamped the way developers can make the most of all the android development tools. The main advantage of mobile learning application is convenient and has the bear to connect the internet connection at anywhere when in need. It also helps in distance learning it's the benefit of technology

Prof. Gaurav hans, harsha sidana et al. [2] described about Mobile learning application and its usage among students in education. Applications (apps) and mobile learning may be a current in an education system that reconsiders the aspect within which the trend of learning takes place and therefore the service is delivered through a smart phone. This paper research report on the mobile learning application and its usage among students in education and academic staff at the school or institute. there's the most ambition of this research that's to resolve the favored smart phone is that the OS is employed among the scholars, primary app i.e., ERP is employed by students and administrative staff. the aim of this descriptive study to determine ERP software whether are currently accustomed enhance or upgrade the amount and support learning within the institute among the school student

Lu, Fletcher; Welton, Jessica et al. [3] researched and produced paper towards combating youth obesity with a mobile fitness application. This paper presents the results of the primary innovate a multi-phase study developing an academic fitness application on mobile devices to assist combat the growing levels of obesity among youth age 11 to 17. This first phase studies demographic differences across age and gender with regards to physical activities, computer games and mobile technology usage so as to develop an adaptive mobile fitness application that needs physical movement by the user while maintaining interest and pleasure levels. Results indicate significant differences in gender in social activities versus action-oriented type games but little difference in forms of fitness activities. Across age groups there have been some significant differences in terms of their interest in games involving strategy, action and violence. Also of note was that youth within the range of 14-15 attended view physical activities as harder versus those both older and younger than them for the ages we studied. Youth also differed significantly within the sort of mobile facilities they used with those older than 13 tending to use G.P.S., Music and video facilities rather more than those aged 11 to 13. These results are incorporated into an initial prototype fitness application which will be tested on subjects within the next study phase. Understanding the Interests of the youth for building mobile application

Jasra Nisar, Owais Noor Trumboo et al. [4] published a journal on database for mobile application. As we all know that database may be a collection of interrelated data i.e., it's composed of collection of files that are linked in such some way that information from one amongst files could also be combined with information from other files in order that the user may receive the precise information as he/she needed. E.g., Consider the names, telephone numbers and addresses of individuals you'll know could be a collection of related data and hence database. Mobile development has become a component of the software industry and it's being present everywhere. so as to develop a mobile, we require a database for it which database is termed mobile database. More and more mobile applications need data to figure, and databases are the foremost common way of storing and managing data. So, a mobile application uses a database that's hosted within the cloud, and connects remotely to that so as to access its data. The aim of this paper is to grasp about the databases that are required for the mobile applications. Helped to understand the data base technologies involved in mobile application development.

Heonsik joo et al. [5] produced a study on understanding of ui and ux, and understanding of design according to user interface change. As the internet of things, mobile, and cloud computing technologies have evolved, interface technologies have evolved into CUI, GUI, and NUI, and another kind of UI/UX is anticipated to be developed within the future. during this study, we showed understanding and production ability of the interface about internet, software, contents, and devices. Therefore, it may be said that it's possible to cultivate competent

IT professionals who have theoretical and practical skills if intensive major subject education is provided for them, and it's necessary to bolster computer, graphics and style. The advantage is delivering the best user interface, coupled with cost savings and application of resources in what is essential, leads to improvement in productivity

Rahul D. Sadafule et al. [6] Mobile App Development for the Indian market. From within the side of a software-intensive system, there are many various forms of implementation, each with its own subtle characteristics. From the skin, it all looks the identical its completely invisible. the online extra at <http://youtu.Be/fwjez4veeco> is an audio podcast of author Grady Booch reading his on computing column, within which he discusses how from the within of a software intensive system, there are many alternative forms of implementation, each with its own subtle characteristics. From the surface, it all looks the same: it's completely invisible. It helped to understand the Indian market Trends and the internal activity of the mobile app development. Also it helped in knowing which style the app should be implemented so that it can be an easy use for the user.

III. PROPOSED SYSTEM

The proposed system is a mobile application which have three components like calorie counting, steps tracking and water consumptions monitor. From this application the user can monitor their daily water consumption, steps taken and water consumption. In the calorie counting the user can search for the food they had and add to their today meals by this their calories will be counted. By this they can monitor their calorie intake. The second component is water consumption monitor, the user can add the amount of water they consume by choosing the glasses of required quantity. They can enable the notifications to remind to drink water. The third component is step tracking to track the number of steps they take on that data.

System Process:

1. Step1: If it is first time for the user in this app then the user needs to register by their email id's and creating password.
2. Step2: Then user can login through their credentials then they will be successfully logged in to the application using their id's
3. Step3: Now user can avail all the options in the application
4. Step4: User can calculate the calorie intake by searching the food and selecting the food then they can add the food to calculate their calories
5. Step5: User can the amount of water by choosing the glass quantity in the options or can creating their own glass
6. Step6: User can start their step counter and monitor their steps they took in that day

A. Proposed System Diagram

- Dataset

	A	B	C	D	E	F	G	H
1	Item	Quantity	Proteins	Carbs	Fats	Fibre	Calories	
2	Idli(Plain)	1	2.5	15.1	0.9	1.1	78	
3	Idlisappappu Idli	1	2.5	15.1	0.9	1.1	78	
4	Steamed Idli	1	2.5	15.1	0.9	1.1	78	
5	Rice Idli	1	2.5	15.1	0.9	1.1	78	
6	Urdal Idli	1	2.5	15.1	0.9	1.1	78	
7	Dosa	1	3.6	21.7	5.9	1.5	154	
8	Masala dosa	1	4.5	31.3	8.7	2.6	165	
9	masala corn dosa	1	4.8	28.9	9.4	3.2	161	
10	mysore masala dosa	1	3.5	22.9	8.5	2.3	180	
11	rava dosa	1	1.8	14.4	3.7	0.8	99	
12	rava masala dosa	1	2.4	20.9	9.8	1.4	181	
13	rava onion dosa	1	2.9	24.8	3.7	1.6	145	
14	onion dosa	1	3.3	20.3	4.9	1.9	137	
15	millet dosa	1	3	16.2	3.6	1.1	109	
16	maida dosa	1	1.2	9.5	1.3	0.4	55	
17	khura dosa	1	2.7	15.6	3.3	0.2	102	
18	wheat dosa	1	1	5.4	2.5	0.9	48	
19	ragi dosa	1	2.4	12.5	3.6	2.1	92	
20	ragi rava dosa	1	1.3	11.2	3.3	1.2	79	
21	ragi oats dosa	1	2.3	13.8	4.9	2.1	107	

Fig .1 Sample food items in the dataset

The screenshot shows the Firebase database interface. On the left, there's a sidebar with navigation options: Authentication, Firestore Database, Extensions, Realtime Database, Storage, Hosting, Functions, and Machine Learning. The main area displays the 'users' collection. A specific user is selected, showing their details: email 'shashank20@gmail.com', age 25, gender 'Male', height 172, name 'Shashank', phone number '9876543210', and weight 81.

Fig .2 User details in the database

These food items are collected from the people of Vijayawada and from various parts of Andhra Pradesh people, these items are frequently. Users may have different choices food and taste but this dataset consists of all various varieties of food items that are consumed overall the Andhra Pradesh. The dataset consists of food along with their respective Nutrition levels like Proteins, Carbohydrates, fats, calories and fibre.

B. Architecture

There are three main parts in the mobile application

- Calorie/Nutritional factors counter: This consists of variety of food items where the user can add, delete the food to their daily consumption. By doing this they can know how much calories they are consuming per day.

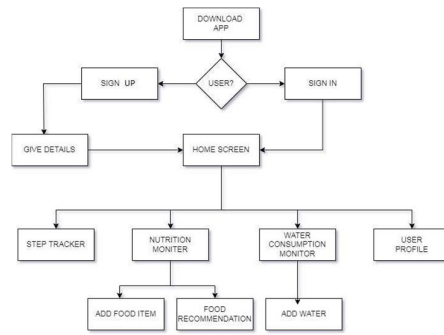


Fig. 3 Proposed System Architecture

- **Step Tracker:** This enables them to know how many steps they took in a day and how many calories they burnt by based on the number of steps they took.
- **Water Consumption monitor:** This enables user consume the desired amount of water per day so that they can maintains their minerals balanced

C. Design diagrams

Fig 4 depicts the use case diagram of the application , Fig. 5 depicts the class diagram of the application.

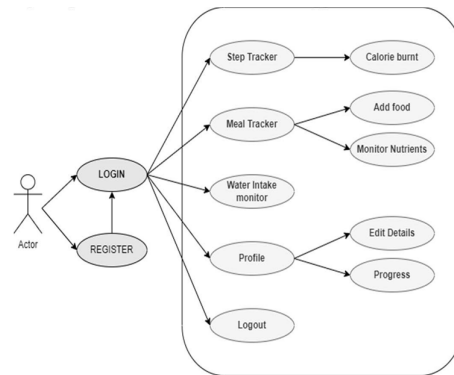


Fig .4 Use case Diagram

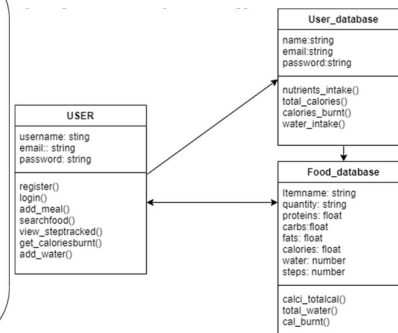


Fig. 5 Class Diagram

IV. ANALYSIS AND RESULT

A. Result Analysis

The application predicts the data with almost 90% accuracy. Here the accuracy depends on the user input the user avail the application features only if he/she provide the correct input. The following fig. 6 describes the result of the after adding food, The percent of their progress calorie intake and steps taken.

B. Application Screens

Screens of the final android application is shown in figures below. Android Studio tool is used to develop the application with the support of XML for GUI development and Java language is used to add the functionality to the application. Fig.7 depicts the Main page of the application.

Fig 8 depicts the Registration page of the application where user can register with their email id's. The user should give only the valid emails and password. Fig. 9 depicts the second page of registration page where all the further details of user is being taken. The user needs to give all the details about them like gender, age, height and weight. These details are used to calculate their body mass index to calculate the number of calories they lost. Fig. 10 depicts the login page user can login through their email id. In Fig. 11 we can see how user can set their goals for the calories and the steps.

Fig 13 shows the calories of the food the user ate and entered. Fig 14 shows the steps taken by the user in that day.

Fig 15 depicts the overview of the goals the user set for the day. In Fig. 16 depicts the overview of nutrition levels in the food intake and also provides which nutrition level is lacking.

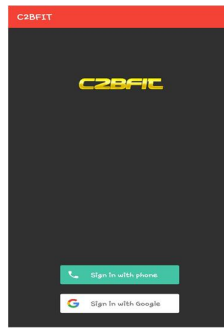


Fig. 7 Main screen of application



Fig.8 Registration Screen



Fig. 9 Image input



Fig. 10 Login Page

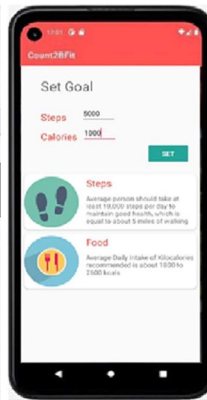


Fig. 11 Setting goals for the day

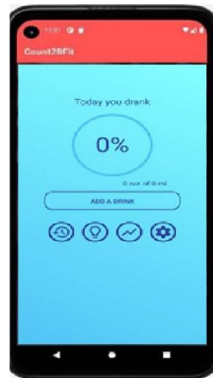


Fig. 12 Water Consumption Monitor

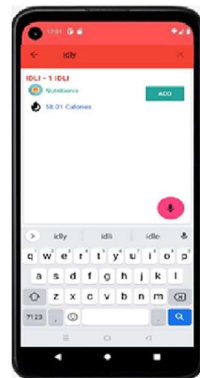


Fig. 13 Calorie Counter

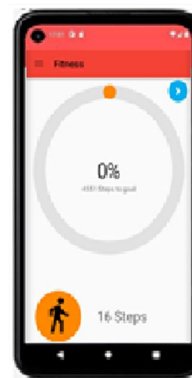


Fig. 14 Step counter

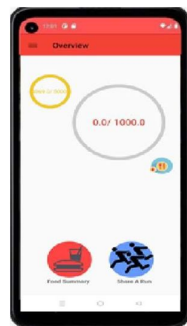


Fig. 15 Overview of the goal

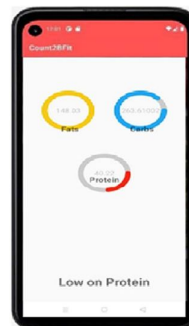


Fig. 16 Overview of nutrition levels

V. CONCLUSION

Now a days people are more concerned about their fitness before which is very good and they should be. But for achieving a great fitness level there are several things which are needed to be kept in mind whether it be right food, proper workout routine etc., and these all are not easy to maintain because of people's busy life. Also, there are researches and studies are going on every day on various aspects of fitness, healthy living and diet and these are needed to be shared for everyone's benefit. The proposed application shows an effective Android Application to achieve all these goals and added almost all features such as Meal Tracker, Calorie Counter, Step Tacker, Water consumption monitor to this Fitness Application to smart someone's fitness journey. This can be someone's ultimate companion which would help them to achieve his desired fitness level.

REFERENCES

- [1] Ponnuru meghana "android development". International journal of computer trends and technology (IJCTT) V43(1):65-66, january 2017.
- [2] Prof. Gaurav hans, harsha sidana, mobile learning application and its usage among students in education, journal of emerging technologies and innovative research (JETIR), volume 05, issue 01, pages: 984-998, published year: january 2018.
- [3] Lu, Fletcher; Welton, Jessica (2012). [IEEE 2012 IEEE 7th International Conference on Wireless, Mobile and Ubiquitous Technology in Education (WMUTE) - Takamatsu, Kagawa, Japan (2012.03.27-2012.03.30)] 2012 IEEE Seventh International Conference on Wireless.
- [4] Jasra nisar, owais noor trumboo, database for mobile application, international journal of trend in scientific research and development (IJTSRD), volume 02, issue 03, pages: 853-854, published year: march-april 2018.
- [5] heonsik joo, a study on understanding of ui and ux, and understanding of design according to user interface change, international journal of applied engineering research, volume 12, number 20, pages: 9931-9935, published year: 2017
- [6] Rahul D. Sadafule ,Mobile App Development for the Indian market. IEEE software, 31(3), 17–20.