A Survey Paper on Health Monitoring Application

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ABSTRACT

The challenge of maintaining proper diet can be facilitated by the use of mobile phones. Mobile phones provide a fair infrastructure, which can be used to provide cost-effective high-quality aids to behaviour monitoring and modification. The nature of mobile phones allows the user for customization and personalization, retrieval of nutrition information on demand, as well as the ability to truly monitor the user's consumption trends. This android application is a one stop solution for all health-related issues and question. It has various functions like diet tracking, nutritional information about food's, BMI calculator, information about some basic medicines.

Keywords: *Health and Fitness Apps, BMI, Diet tracking, Reminders, etc*

1. INTRODUCTION

In this growing world People are not able to concentrate on their personal health. It is very important to take care of individual health so we need external monitoring applications to keep track of our well-being. These applications are commercially available for physical and personal health care, fitness and activity awareness, in addition to this. These types of application help in maintaining long term data. The application helps to keep track of health. It gives health advice on the activities such as Diet and Nutrition, work out and sends alert messages. You cannot able to achieve your fitness goals properly unless you do not measure its progress. Repetitions, sets, calories, hours, kilometers, kilograms, pounds everything can be counted. The app owners can track their progress in the aforesaid measurable units, become motivated by this information, and continue using the app to achieve more. A patient is known to have a medical condition with unstable regulatory body system A patient is prone to heart attacks or may have suffered one before. The vitals may be monitored to predict and alert in advance any indication of the body status.

2. LITERATURE SURVEY

[1] A healthy lifestyle will lead to a better life. Healthy body reduces the incidence of disease. Due to the stressing demands of the world, everyone is competing with each other to excel in the work they do. It was reported that the number of sudden deaths is increasing due to their stressful lifestyle [1]. Many applications and systems have been developed to better manage critical health situations. However, as has always been said, prevention is better than cure. Exercise is a basic necessity to a good health. There are many options to the kind of exercise one can do. Basic aerobics or playing sports are some forms of exercise one can be involved with. When we exercise, "it reduces levels of the body's stress hormones, such as adrenaline and cortisol. It also stimulates the production of endorphins, the body's natural painkillers and mood elevator".

Even though a person would like to live healthily, involvement in an exercise routine sometimes seems impossible. This affects all age groups. Students in the university claims that they are swamped with busy class schedules that they do not have the time to exercise. As mobile technologies become more assimilated in our lives, an application that could help the younger generation to better plan their exercise schedule would be useful. Although many exercise application have been developed, few has incorporated health status and schedule of the user. The purpose of this research is to develop an Android based prototype application that will generate the kind of exercise that should be done by the user, based on certain input criteria namely, height, weight, current health condition and schedule. An algorithm will be developed to recommend the type exercise for the user and also generate the exercise schedule. This research focuses on developing an Android-based mobile phone prototype to calculate and determine the duration of

physical exercise, time to exercise and the types of exercise needed daily by the user. The factors that will be used in the calculation of the algorithm are BMI (Body Mass Index) of the user, user's body condition and working hours.

Rule-based algorithm was used in this application to suggest their exercise schedule. Further and long-term study is necessary to see the effectiveness, perceived usefulness and usability of this.
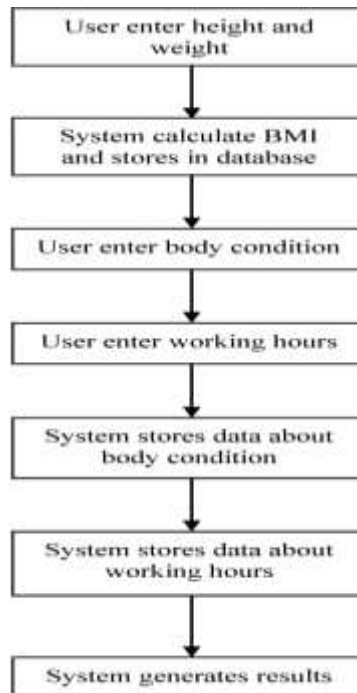

Fig 1: Flow Diagram of the application

[2] Advances in application as a solution for the overwhelming problems of the health. In addition to easier management and seamless access to historical records, present technology has the potential to motivate users to take an active role and manage their own conditions. This paper presents the capabilities of the current generation of smartphones and possible applications for ubiquitous health monitoring and wellness management. This paper presented the mobile health monitoring system for wellness management, designed to monitor physical activity, weight, and heart activity.

Wearable health monitoring systems integrated into a ubiquitous mobile health system (mHealth), emerged as a technology of choice for ambulatory monitoring. This approach facilitates continuous monitoring as a part of a diagnostic procedure, optimal maintenance of a chronic condition, or computer assisted rehabilitation. Traditionally, personal medical monitoring systems, such as Holter monitors, have been used only to collect data for off-line processing. Ubiquitous connectivity allows real-time processing and communication; it also facilitates warnings, computer assisted rehabilitation, and continuous health monitoring

Figure 2.1 System Architecture of The Ubiquitous Health Monitoring System

mHealth systems can be used for diverse, unobtrusive monitoring:
- postoperative monitoring of patients;

- monitoring of patients with chronic diseases;
- social networking of relatives and peers for monitoring of elderly;
- lifestyle and general well-being monitoring (e.g., to deal with obesity);
- wellness and exercise monitoring;
- monitoring vitals and status of soldiers and fire fighters;
- emergency medical care and mass casualty events;
- computer-assisted rehabilitation and therapy;
- development of new emergency services with prolonged monitoring;

Smartphones integrate processing and communication capabilities of the recent generation of workstations into a small and wearable form, creating a revolution in the number of Þ elds and applications. The most promising applications of smartphones are health monitoring and wellness management. Continuous monitoring and real-time, customized feedback on health and behavior will increasingly rely on remote and networked sensors and actuators, mobile platforms, novel interactive displays, and advances in computing and networking infrastructure. Data collected by sensors at point of care or labs needs to be anonymized and aggregated for community-wide health awareness and maintenance. Such data, especially collected over populations, can lead to inferences about best practices and cost savings in providing health services.

[3] Mobile Health Care is the integration of mobile computing and health monitoring. It is the application of mobile computing technologies for improving communication among patients, physicians, and other health care workers. It enables the delivery of accurate medical information anytime anywhere by means of mobile devices. This paper presents Intelligent Mobile Health Monitoring System (IMHMS), which can provide medical feedback to the patients through mobile devices based on the biomedical and environmental data collected by deployed sensors.

System Architecture
The IMHMS contains three components. They are
1. Wearable Body Sensor Network [WBSN]
2. Patients Personal Home Server [PPHS]
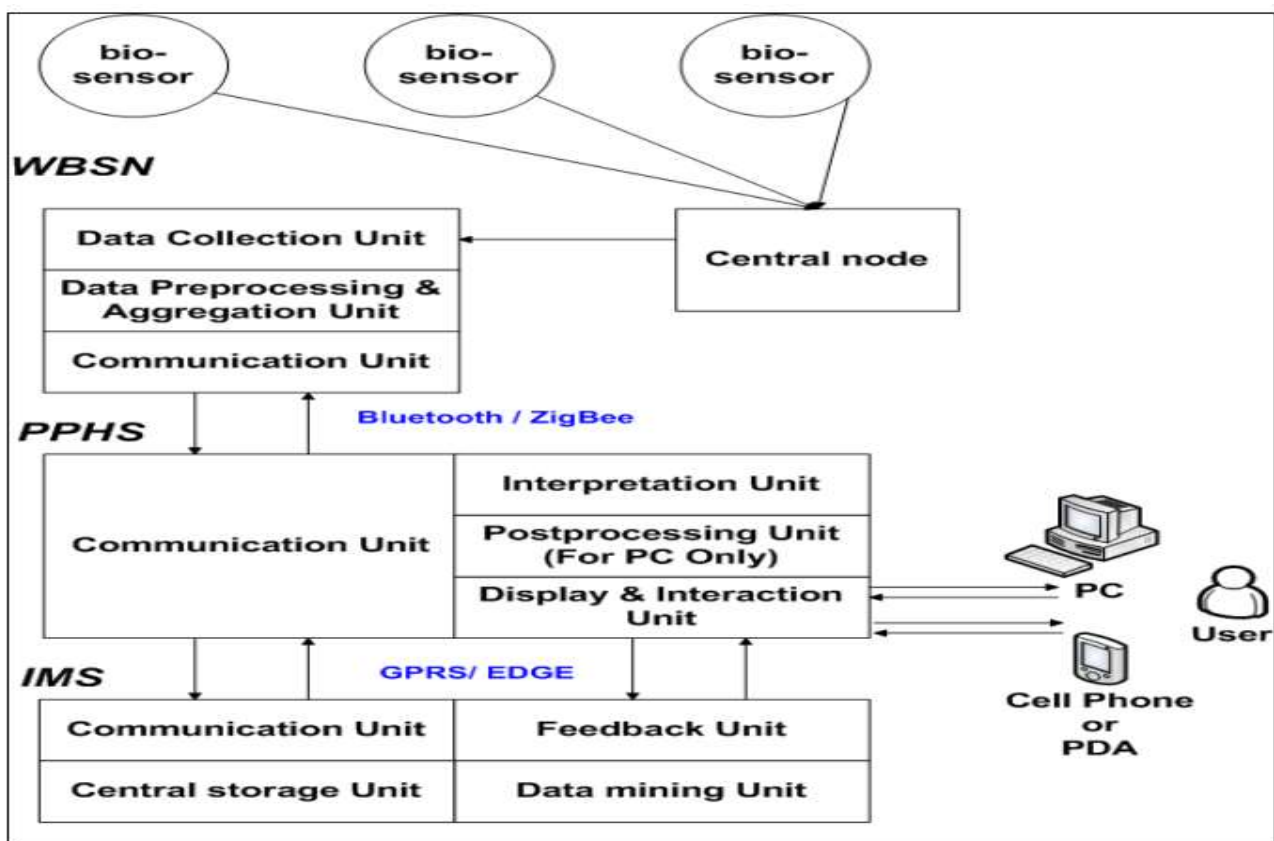3. Intelligent Medical Server [IMS].

Figure 3.1. IMHMS System Architecture

The flow diagram of the implementation is shown in the Figure 4. The WBSN collects patient data and send the data to the PPHS. PPSH receives the data and processed the data to reduce the transmission of unnecessary data to the IMS. The PPHS communicates with the IMS using GPRS or EDGE. The IMS contains a Data Mining Unit, a Feedback Unit and a central database. The database contains the entire patients' profile, continuous health data and a large set of rules for data mining operations. The Data Mining unit processes the data and returns the feedbacks and results to the Feedback Unit. The feedback unit then sends the data to the corresponding PPHS. Moreover, the patients can login to the IMS using authorized patient-id and password to provide information manually and to view the patient's entire history. Some screenshots of these activities are shown in the figure. Figure 5.1 and 5.2

show the interface in IMS for patient's profile information and manual health data submission. Figure 5.3 shows one patient's entire medical history with the feedbacks and results stored in the IMS's central database. Figure 5.4 and 5.5 show the automated health data collection of J2ME based PPHS and display of feedbacks provided by IMS based on the collected data. The interfaces of PPHS and IMS are user friendly. Any people with little or no technical knowledge can use it without any difficulties. The communication architecture of IMHMS is very simple and flexible as we claimed. There is no complexity in communication between the components of IMHMS. So, the prototype implementation was quite smooth. The prototype implementation involves a low-cost cell phone and a personal computer. The cell phone acts as the PPHS whereas the personal computer acts as the IMS. The cell phone communicates with the personal computer using GPRS which is very cheap and available now with every cell phone. So, the setup for the evaluation was really cost effective. We are working on providing RFID based security. In the evaluation we encrypted the data using Advanced Encryption Standard (AES). We used Java Cryptography Extension (JCE) for this purpose, which is a framework for encryption, key generation, and key agreement and message authentication code (MAC) algorithms.
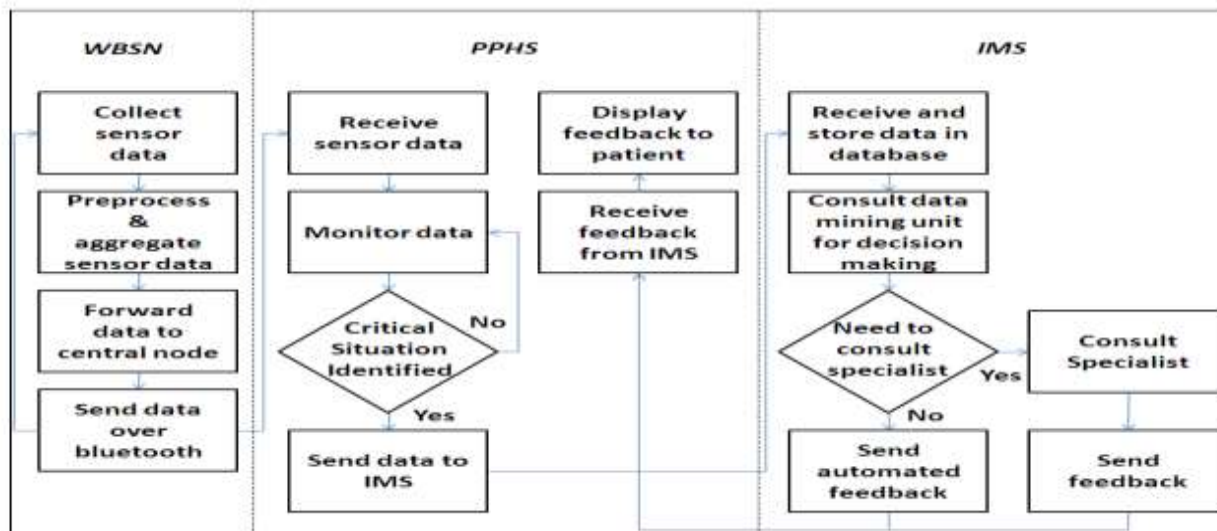

Figure 3.2. Flow diagram of the implementation

[4] Nowadays, many health and fitness applications(apps) can be downloaded from app stores, changing the way people manage their health and chronic diseases. This paper reflects on 7 years of experience in mobile health and fitness app development. It analyzes the uptake of a health and fitness app, myFitnessCompanion, by the healthcare industry and end-users dealing with chronic disease management. The use of myFitnessCompanion is analysed from an end-user perspective. The app is available via Google Play since February 2011 and the research presented is based on data collected from 5500+ users over a period of 7 months. The paper also discusses how mHealth apps could be distributed in the near future, as well as, the use of Personal Health Record (PHR) systems such as Microsoft HealthVault, and the impact of regulations on the future of mHealth apps. The conclusion highlights the challenges and opportunities for app developers in the mHealth industry.

Mobile app developer's viewpoint
There are many challenges and opportunities for health and fitness app developers. Currently, there is a huge gap between what users are willing to pay, versus what it costs to develop and maintain an mHealth app. Users should not need to pay a fortune to monitor their health using a mobile device. However, the looming FDA regulation might stall the use of mHealth apps in the USA or force developers to charge a lot in order to recoup the FDA certification costs. There is also a strong interest from healthcare providers with a web-based solution to add myFitnessCompanion® as their mobile component. Mobile apps can collect and transmit data in a reliable and secure manner to a PHR system (e.g., Microsoft HealthVault®). Adding a mobile version to their solutions portfolio increases their market share and improves personalization and customer empowerment. Health sensor manufacturers are also very interested in mHealth apps as it offers them the opportunity to sell more hardware devices. Mobile apps with wireless connectivity offer a perfect means to interact seamlessly and comfortably with these wireless devices. As mentioned in section 2.2, many users do use more than one app to monitor their health. It is therefore desirable, from a user's perspective, to achieve interoperability between the various Apps. The use of Microsoft HealthVault® as a central data repository is a great way to offer interoperability by allowing users to import/export data between different apps. myFitnessCompanion® is fully integrated with Microsoft HealthVault® and can seamlessly import existing physiological data reducing the need to have several mHealth apps to collect physiological data. There is a bright future for mobile app developers if the app is integrated in a total end-to-end healthcare solution, and if the stakeholders (healthcare institutions, content creators, governments, mobile operators, device manufacturers, non-governmental organizations, providers, insurers, manufacturers, distributers) acknowledge the importance of the mobile aspect in their business model, and are willing to share a percentage of their profit with mHealth developers.

Distribution of mHealth apps
Apple's App Store, Google Play, and more recently the Windows Store, are currently the main distributors of health and fitness apps. These stores offer an easy-to-use distribution channel where, for a few dollars, high quality apps can be downloaded.

[5] Body mass index is a familiar term for those who are weight conscious. It is the term that let user know about the overall body composition in terms of fat. The available body mass index calculators whether online or on Play Store do not provide Malaysian meal suggestions. Hence, this paper proposes an application for body mass index calculator together with Malaysian meal

suggestion. The objectives of the study are to design and develop BMI Calc android application for the purpose of calculating body mass index while embedding meal suggestion module.

This module calculates the BMI based on the height in meter and weight in kilogram of a user using the formula. BMI can be defined as a heuristic proxy for estimating human body fat based on an individual's weight and height. According to World Health Organization (WHO), Asian BMI classifications can be categorized to 4 groups. The researchers developed meal suggestions on the application utilizing App Inventor 2. The suggestions for breakfast, lunch, and dinner are based on the number of calories needed by the user, which also taking into account several favorite Malaysian dishes. BMI Calc Android Application development using App Inventor 2 is described in Figure 2. Then, the third stage of BMI Calc application development (Coding) was the implementation stage. Testing was performed concurrently with the programming of the application. The overview of BMI Calc operation is displayed in Figure 2. Two inputs are demanded from the users which are height and weight. Once this information is inserted in the application, user's BMI will be calculated based on the aforementioned formula

Category	Weight	Meaning
1	< 18.5	underweight
2	18.2 to < 23	Normal weight
3	23 to < 27.5	Pre-obese
4	>= 27.5	Obese

Body mass index is a familiar term for those who are weight conscious. It is the term that let user know about the overall body composition in terms of fat. The available body mass index calculators whether online or on Play Store do not provide Malaysian meal suggestions. Hence, this paper proposes an application for body mass index calculator together with Malaysian meal suggestion. The objectives of the study are to design and develop BMI Calc android application for the purpose of calculating body mass index while embedding meal suggestion module. The design and methodology involve in the process are also presented.

Mobile phones have crucial influences on consumers and their life style. Nowadays, there are many applications which have been developed for mobile phones and one of those is healthcare applications. Gartner, Inc. has identified 'Mobile Health Monitoring' as the fifth among the 'Top 10 Consumer Mobile Applications for 2012' [1]. This list is supported by the 'Top 10 Strategic Technology Trends for 2014' which includes 'Mobile Apps and Applications' [2]. Analysts expect global mobile health market's value will increase to $11.8 billion by 2018 [3]. As a matter of fact, the medical apps industry is expected to grow by 23 percent next year. At the time of the study was conducted, the available body mass index (BMI) calculators whether online or on Play Store did not provide any Malaysian meal suggestions. Therefore, there is a need for an application with BMI calculator embedded with Malaysian meal suggestions. The objectives of the study are to design and develop BMI Calc android application which enables to calculate BMI and to incorporate Malaysia meal suggestion module within the application. Specifically, BMI Calc is able to suggest suitable meal for certain Malaysian dishes with related calorific values. The project scope involves the calculation of the BMI, which is to be calculated within the application itself; then suitable Malaysian meals with calories will be displayed. This paper is organized into several sections. Section 2 discusses the related work focusing on various health monitoring applications. Section 3 presents the design and methodology involves in the process including the flowcharts. Section 4 presents the user interfaces and evaluation for BMI Calc. Finally, the work of this paper is summarized in the final section.

[6] Many medical errors are due to the fact that people in charge of patient or elder's medication have to deal with sorting huge amounts of pills each day. This paper consists on the conception, design and creation of a pillbox prototype intended to solve this deficiency in the medical area as it has the ability of sorting out the pills by itself as well as many other advanced features, with this device being intended to be used by hospitals or retirement homes. This medication pill box is focused on patients who frequently take medications or vitamin supplements, or attendants who deal with the more seasoned or patients. Our smart pill box is programmable that enables medical caretakers or clients to determine the pill amount and timing to take pills, and the service times for every day. Our shrewd pills box contains nine separate sub-boxes. In this manner, medical caretakers or clients can set data for nine distinct pills. At the point when the pill time has been set, the pillbox will remind clients or patients to take pills utilizing sound and light. The warning of pills should be taken will be shown by an android application which is held by the patient. Contrasted and the conventional pill box that requires clients or attendants to stack the crate each day or consistently. Our shrewd pill box would essentially discharge medical attendants or clients' weight on much of the time preloading pills for patients or clients and overlook the measurements which must be taken.

As pills have taken such an important role in everyday life there has been the past years an increase in the number of medical neglect cases related to incorrect medication given to patients, such as the case of the nurse who gave a patient a paralytic instead of an antacid that was prescribed by the doctor, causing the patient's death. After seeing so many of these cases it is evidently crucial that the correct pill is taken by the correct person at the correct time, otherwise taking an incorrect one or not taking one at all may expose the patient to several dangerous situations, ranging from mild health issues up to death.

Other cases of wrong pills being ingested by patients are caused by patients themselves, especially at an old age. As people grow old the human body tends to malfunction and the number of pills the average person has to take when certain age is reached greatly

increases, were, according to a 2008 study published in the Journal of the American Medical Association, more than 40 percent of Americans age 65 and older take five medications a day Usually they are a wide range of different pills an elderly has to take at different times. Keeping track of taking the right pill at the right moment each day can become a challenging experience for the elderly, as it is not as easy as it could be for a younger person. This fact is easily explained when we understand that many of the abilities such as sight, memory or logical capabilities tend to decrease in a proportional way to age once human beings have entered old age, making it difficult for them to remember which pill to take at the correct time, remembering to take them or confusing one pill with another as the person may not be able to distinguish one from another thanks to their decreased sight as well as the similarity in the pills forms and colors. This problem will most surely be a cause for concern for the people surrounding the pill-taker, as not taking a pill at the correct time can cause severe problems (such as organ rejection in a patient with organ transplant or heart attack in patients suffering from grave heart conditions).

On the other hand, several problems related to the high number of pills nowadays are prescribed to patients are found in hospitals or in retirement homes. In these places on of the main jobs is to give out to its patient the correct pills. Managing, sorting and giving out the pills to each one of the patients can sometimes have a high chance of error, with a patient or resident receiving one or more incorrect pills. Finally, there are situation where taking an incorrect number of pills is a matter of the patient's inexperience and/or ignorance. No matter the cause, it has been proven that there is a significant risk of people ending up swallowing the incorrect medication or dose. Medicine hasn't always been the precise science which we know nowadays, in fact, throughout history the vast majority of maladies and afflictions would have resulted in probable death. Fortunately, medicine has experienced a great development in the last century, resulting in an increased life expectancy and the possibility to cure a great quantity of diseases and health disorders. Pills are one of the pillars of medicine, being used as direct treatments of some sort of illness as to assuring some medical condition remains stable. Our smart medicine reminder system is designed for, but not restricted to, helping old people in taking care of themselves in taking their medications at the correct time and in the correct amount. It has been observed that people in general neglect their health and give preference to other things than taking their medicines. This is also the reason they forget to take their prescriptions on time. Many health maintenance organizations, health practitioners and medical researchers have realized that increased use of patient reminders can significantly increase the treatment of chronic illness and delivery of medical services to the patients who need it.

Furthermore, some patients are so occupied with their day-to-day activities that they just forget to take their medications. This is particularly true for old patients who have to take more than one medicine at more than one time in a day. Setting alarm clocks is a tedious task which patients are too lazy to set again and again. If asked about what time people have to take their medicines, many forget to answer the correct times or remember whether they have already taken the medicine in the day already. Elderly people specially face this problem because of their degrading memory and in severe cases, forget that they have already taken their prescription and retake the same medicine 2 or 3 times in the same duration. This may not be harmful for lighter medicines, but for some strong and concentrated medicines, it can have further harmful effects to the body. This is exactly where our medicine reminder system can help. Our system takes up the prescription details from the user such as the duration of the prescription, the names of the medicines, the times they are to be taken and the amount of each medicine which is to be taken. After all this data has been entered, our system will remind the user at the prescribed time of which medicine is to be taken in form of a mobile notification and a physical reminder. The patients can leave taking medicines to just our app. whenever the time for the medicine is up, they will be notified and they only have to take their prescriptions during that time, and no other time. If implemented properly, this will drastically decrease overdose of medicines due to forgetfulness and the patients will also be reminded to take their medicines.

[7] The aim of the project is to develop an Android application that lets its users to send notifications in case of an emergency or a panic situation. The users can send multiple text messages and emails on the press of a single button. The phone numbers, email ids and the contents of the text and email messages can be set from within the application. The text messages and emails sent, along with the content, also have the last known location of the user. This is very helpful in tracking the whereabouts of the person. The user can also call 911 directly from within the application, if the nature of the situation demands it. Additionally, the user of the application may allow the app to track their location. If this option is selected, the application fetches the device's location at about every 15 minutes and stores it in a database. This information is very useful and can be used in a variety of ways. One such use of the location data is from within the Android app where the user can view a map that shows their location history over a period of time for a particular day. SOS (which stands for Save Our Souls or Save Our Ships) has primarily been used as an International Morse code distress signal. It is commonly used in navigation by Sailors when under attack by Pirates or when they need help of some kind. But the signal is not limited to navigation and is used in a more general sense whenever a notification has to be sent about a situation that requires immediate attention. As much as we would like to get rid of them, panic or emergency situations are unavoidable and usually unexpected. The nature and consequences of these situations can vary significantly and in worst cases also be life threatening. Therefore, it would be really nice to have some mechanism by which we can notify certain people about such circumstances and increase the chances of receiving help as soon as possible. The need for such a mechanism increases even more as in this era of technology, platforms exist to support them. One such platform and a very common one in that is a Smartphone. Almost everyone today carries a Smartphone with them as they become more and more affordable and easily available. Also within the Smartphone market Android is the clear leader in terms of market share. According to one report, 78.1 % of the total Smartphones sold in 2013 were the Smartphones that run on Android Operating System. Hence developing an Android application becomes an obvious choice.

SOS is an application that is meant to run on Android devices mainly smartphones but also tablets that support Cellular Service. The main functions and features of the application are –The user of the application has to login by entering a username and password the first time he opens the app on his device. He then remains logged into the application until he logs out explicitly. If the user does not have an account, he can register on the login screen. The user can also choose the password reset option in case he does not remember his password. A new password is set for the user and a mail containing this new password is sent to the registered email id.

Once logged in, the user is directed to the main screen of the application. This is the screen that would open up when the user opens the application. The user can press the panic button to send text messages and emails to the contacts set up, he can also send an 'I am OK' message to these contacts by clicking on the OK button. The user can also call 911 directly from within the application by pressing the 911 button. In order to avoid unnecessary and accidental press of these buttons, the user has the option to enable and disable these buttons. The user will also see his current location on the main screen. This way he would know his exact location and refer to it in case he makes a call to 911. This location is also sent as a part of the text and email messages. The user can set the contacts to send the text message and emails within the app. He can either select the contact from the contact book or can enter one manually. He can also set the text message and the email message that would be sent. The user can enable the option to start location tracking. If this option is selected, the application fetches the location of the device (about every 15 minutes) and stores it in an external database. If the permission to track the location was granted, the user can at a later point see the various locations he had been to for a time interval on a particular day. He would be presented with a map that display these locations. The user can see the address and the time he was at that location by clicking on the marker for a location.

[8] It is an Android-primarily based totally software with an automated notification device. It specializes in health practitioner-affected person interaction. Patients do now no longer want to do not forget the time in their dose as they will be reminded for the medicine as per scheduled by the doctor. Notifications may be set for plenty medicines and times, consisting of the date, time and outline of the medication. Patients will in all likelihood be dispatched a notification through e mail or message to the device in their choice. They may be detected in keeping with the health practitioner's illness. Many clinical reminders had been advanced in which new hardware is needed however in our paintings we've got attempted to increase a device this is economical, timesaving and capable of assist medication. The notable problem is that patients forget to take the right medication in the right amount and at the right time. Medication compliance, which refers to the extent or extent of taking the right medication at the right time as directed by a doctor, has recently emerged as a serious problem as many studies have suggested that non-compliance can be serious. Impress the patient and thereby increase medical costs. So, we're introducing an Android software aimed toward reminding sufferers in their dosage time via notification through email or message with a view to live in shape and healthy. This software is targeted on individuals who neglect about to take their medicine on time. Doctor can add pill reminder for a particular patient. After putting the pill reminder, the patient will receive email or message as per scheduled by doctor. As patients can receive notification view email or message there will be less possibility of error. It is a life-saving, money-saving and time-saving software that is straightforward to apply and offers an exquisite person interface, Smart Phone Application software that seeks to keep away from drug management errors. Many pharmaceutical structures were advanced primarily based totally on exceptional systems and concepts. The use of fitness associated programs is growing however there are numerous issues associated with their functionality. My Pill Reminder is an android application through which patients can receive notifications over email or via message. The patient can forget at what time which medicine to take and that is very bad for patient's health, as he should take medicine at right time as prescribed by the doctor. Most of the times this happens, by using Pill Reminder app doctors can see list of patients and by clicking on any particular patient doctor can see a form to add pill reminder to that patient. The doctor needs to give pill name, duration of the medicine, Daytime(morning/afternoon/night) and intake advice (before meal/after meal) and as per the options selected by doctor the selected patient will receive email or message. On the other hand, after log in patient can see list of history of pill reminders. As the patient is reminded through email and message there is less possibility that the patient will forget to take the medicine on time

[9] Activity Tracker or Fitness Tracker is outcome of research and development in area of information and technology to analyses health related issues. Fitness Trackers is technological device or mobile application which monitors and tracks our daily fitness related activities in data. These data are useful for us to know our daily physical activity such as daily run or walk, calories burn, heart rate and few other health related activities. Few Fitness Trackers are wearable where as there are many computer and mobile applications which are available online and can be used on mobile phones or tablets. Use of fitness tracker in recent days has shown increasing trends. People are using this for their physical fitness analysis. There could be many mottos or aim behind the use of fitness trackers such as to improve general fitness level, to reduce weight, to check heart rate, etc. In the present paper researcher has tried to analyses the use and effects of fitness trackers on humans. The paper has objectives to understand that what motivates the people to buy these gadgets or use these applications. Researcher has also focused on its effects on the objectives and goals set by the individuals. The present paper analyses that whether the fitness trackers really work in increasing the fitness level among its users. The results also analyses that whether the use of these gadgets and tools has any impact on reduction of weight loss. Thus, the relevance of this paper lies in the significant use of these applications and gadgets and its effects on humans.
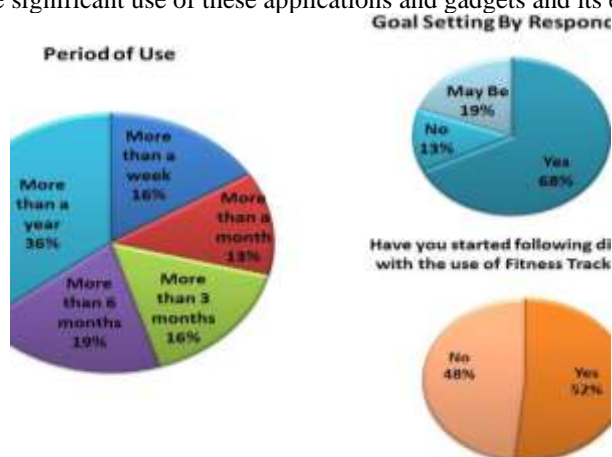

Fig. 9.1

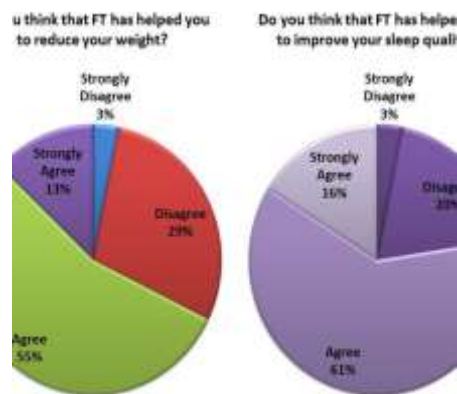Statistics after getting reviews from the users

Fig. 9.2

[10] The BMI Calculator App is a software application which avoids more manual hours that need to spend in personally calculate and find the BMI for a particular person at a single click. This application keeps both the standard in it. American standard and Indian standard too. This app gives us all the information in both the standards which is not given in existing app. The main scope is to maintain the health. The BMI App gives us all the information, it gives suggestion for our health and tells us what should we eat and what to avoid. When we enter the height and weight, we get all the information that are we overweight or underweight etc. The main scope is to maintain the health. Application avoids the manual work and the problems concern with it. Centralized management of the database &one app to manage the BMI Calculator of the different section of the female/male etc. The system is easier to handle and does not require special training to handle it. Proper alerts and messages are provided to inform the user of any special events. The user will be easily able to adapt to the system. The system keeps the records very precisely and information can be accessed within few second.

Advantages by deploying the application:
•   Automation of the entire system improves the efficiency
•   It provides a friendly graphical user interface which proves to be better when compared to the existing system.
•   It gives appropriate access to the authorized users depending on their permissions.
•   It effectively overcomes the time complexity.
•   Updating of information becomes so easier.
•   System security, data security and reliability are the striking features.

3.CONCLUSION
The brief framework by this literature review we have put forward the studies about user's outlook towards the smartphone fitness apps and its influence in improving health condition. It focuses on users' interaction with the android Health apps where inputs are height, weight, age and gender used for calculating the BMI values. Based on the BMI values users are provided with diet plans and workout regime. The previous health condition of the user is also considered for analysis which improved the result. Many medical reminder systems have been developed but they need special software requirements or IOT devices to track. The software application which is proven to be user friendly and effective pill reminder system in recent times. During the times of emergencies people suffer with lack of help when they are alone. Emergency dialing feature in the app could help in connecting their family at the right time and can help in saving lives. These papers give idea to build an application which integrates all the above features into a single application.

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