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Smart Health Monitoring System

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Abstract: ***This project works on basic health and fitness programs. Upgraded using the Android platform and features will also be described in the report. As the name implies, Smart Health Monitoring System is a smart App that lists almost everything you need to take care of your health. So the user should simply sign up for the program by providing his or her personal details and physical signs and so on, the system takes care of everything. In recent times humanity has seen an increase in tourism and an increase in fitness programs. The essence of this project is to provide all the tools that can be useful in a personal exercise trip. This application is used to track a person's level of fitness. It shows the user a complete view of their life so that they do not lose track of their resilience. This app has some options where the user can keep track of their eligibility. This app will allow the user to calculate BMI level, Footstep monitoring, sleep suggestion, Alarm Water. In this way, older people can avoid, for as long as possible, any contact with health facilities (e.g., nursing homes and hospitals), which also reduces the stress on the health system, if we look at our health. At the end of the program development, there will be an application for a health and fitness program.***

Keywords: Body Mass Index, BMI, Footsteps Monitoring Sleep Suggestion Water Alarm

1. Introduction

The Smartphone has been a part of everyone today since the launch of IBM Simon in 1992. Simon is considered to be the first true smartphone, with a black and white touch screen display, and to use basic basic features such as a calendar, address book, note pad and calculator (Wright R., 2013). From there, the smartphone begins to evolve into a device that can help people with their daily work. It is no longer a mobile device intended for making calls and sending messages. Instead it is a well-designed touch screen that integrates the features of the Application, Internet access, third-party application and serves as a reminder of important tasks and much more. Android will be a major platform development platform for this project. Clearly, these days people are lazy to exercise whether they have free time or not. Having said that, there are also those who like to exercise but may not know how much exercise they have, how much they run and how far they walk. Knowing all the recorded information of all the training, they can know how much they have improved in the previous performance. The main purpose of the health monitoring program from this project is to empower users to keep track of their exercise progress and allow them to calculate their fitness. Therefore, the main purpose of the project is to help users keep track of and keep them informed of their physical fitness.

2. Literature Review

Over the past decade, many developers have been focusing on the health app to come up with a plan that can help people manage their health better because they gain power from all of these programs in the future and in fact, these apps already have a place in the market. Access to health care, accessibility and ease of use has always been a problem for many people and this emergence allows mobile devices to be used to help with these challenges. With the advancement of mobile technology, mobile health apps, sensors and remote patient monitoring systems, things became much simpler and cost-effective by facilitating health delivery (Western, 2013). The Health and Fitness program is seen as the fastest growing phase of the year (Boxall, 2014). It simply shows how much the mobile industry is focused on our well-being and how much people are buying from it. The next thing that comes after smartphones are now starting to enter the market is quickly being worn. The most commonly worn clothing today is not a big deal but an electronic watch, a smart watch that can collect certain data from users such as heart rate, keep track of the number of steps taken by a user from one place to another and also be able to synchronize this data with a connected device very useful information.

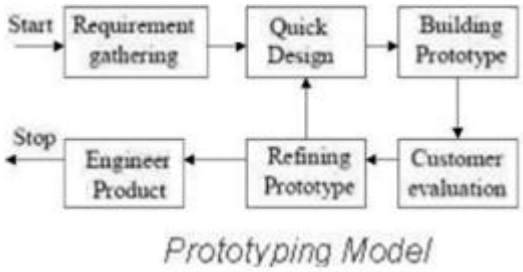
3. Methodology

Before upgrading a building to a real operating system, there are certain steps that must be taken to ensure that the development process can run smoothly and efficiently. As emphasized by Radack (nd), the most effective approach is to incorporate all aspects of the development process starting with heating, analysis, design, and implementation, and further maintenance and disposal of the system. a development process guide with a view to making the process more efficient. In the first stage of the development process which is the planning phase, the requirements of the plan are considered depending on whether the system can do it and what the user needs or in other words, determines the size and purpose of the project. Also, it should be considered in the next section, which is the analysis phase; the cost and time required for the project so that the project has sufficient time for development.

Moving on to the next stage; the design phase is one of the most important stages because it is at this stage that the negative concept of the plan is planned. Describes the features and functionality required of data, including visual connections, business rules, pseudonyms, and other documents.

The next stage would be the development phase, where the coding work begins here. The first thing you need to do at this stage is familiarize yourself with the Platform that will be used to improve the system. For example, in this app, the Android platform will be used to upgrade the Smart Health

app. Arriving at the next stage after all the coding work has been done, the developer will then inspect the software and determine if there are any bugs that need to be fixed and what should be added or changed from the operating version.



Prototyping Model

There are a few tools needed for this project that include Hardware and software.

Tools used: -

Software Requirements:-

- Supports ADB Android Studio connectivity.
- Integrated Development Environment (IDE) to be used for application.
- Android Studio
- SQL Server / Visual Studio

Hardware Components:-

- Detective - i3
- Hard Disk - 5 GB
- Memory - 1GB RAM
- Android phone with kitkat and above.

Modules

User Login: - User will enter his or her email and email to build identity through this application. Once created, the user will have to enter his or her details to access the system.

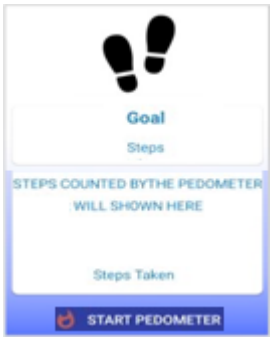
Registration: - If not registered the user must register here by entering his details such as email, full name etc.

4. Proposed System

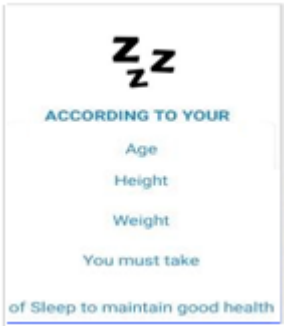
The proposed system contains various calculators that will calculate a different scale that determines a person's energy level; accordingly, one will take care of themselves and follow the suggestions given by the app. The benefits of this proposed program are a complete, reliable and inexpensive package. In this system the user must register in the app. If they are not registered than they can log in with Gmail and create their own unique id and password .This app will allow the user to calculate BMI level, Footstep monitoring, sleep suggestion, Alarm Water. There is ongoing research and studies on various aspects of resilience and healthy living. In the proposed system, some studies on how a monitoring app can deliver as input data, while a good health monitoring app provides the developer API to make software that can be used with mobile devices.

BMI:- The user has to enter his measurements and weight this will let the user calculate his Body Mass Index.

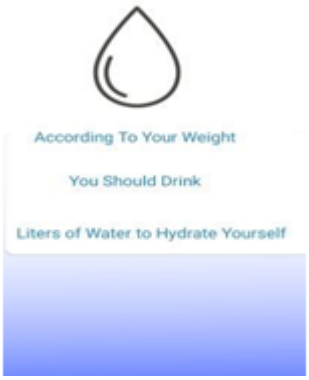
Footsteps Monitoring:- The system keeps track of the steps and notifies the user of his or her daily steps.



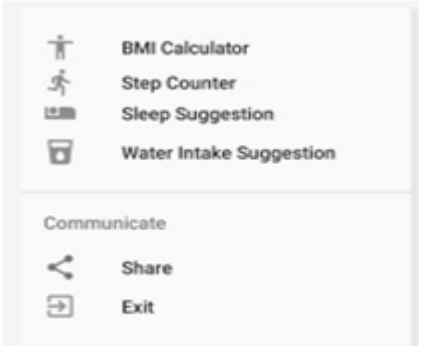
Sleep Suggestion:-The System tells user to enter certain details like Age,Weight,Height then the system will calculate and give advice that a person should take certain amount of sleep to maintain good health.



Water Alarm:-The system tells the user how much water the user should use and warns him by letting him know how much water he should have used so far.

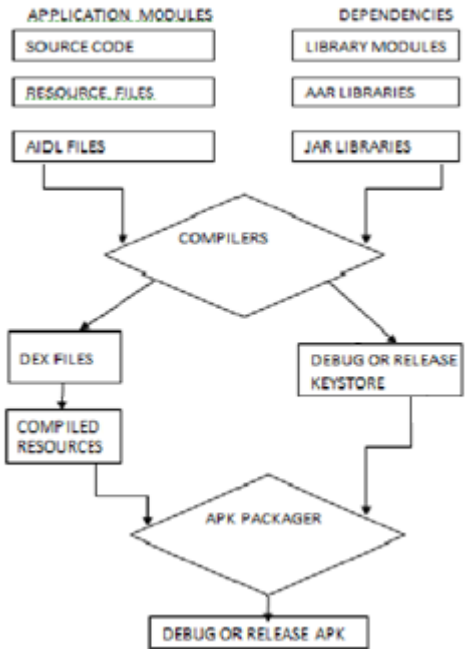


Main activity:- It shows all monitoring activity. All the features such as BMI calculator, Step counter, Sleep suggestion, Water intake suggestion and others of this fitness mobile application output screen is shown in figure.



5. Results

The Android application is made with the installation of an application file created from the Android studio (software used to create APK files), the APK files i.e. the final installation files are made as follows.



Generation of APK

6. Conclusion

Now the people of the day are more concerned with their own strength than before which is the best thing and should be. But in achieving a high level of fitness there are many things you need to remember if it is the right diet, the right way to exercise and so on. Also, there is ongoing research and studies on various aspects of fitness, health and a healthy diet and this needs to be shared for the benefit of all. The proposed app demonstrates an Android operating system to achieve all of these goals and adds almost all features including BMI Footstep monitors that offer a sleep and Water Alarm suggestion to consume a certain amount of water. This could be the last friend to help them achieve his level of resilience.

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