

# Healthwise – An Android Application for Private Health and Nutrition Management

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**Abstract - Now-a-days, people have gotten greater fitness conscious and have a bent to continue to be a take a look at on nutritional reap from the packed foods merchandise they consume. This application- christened “healthWISE” – helps a cellular user to scan/enter the barcode on the packed foods product, recognize the dietary information, and upon getting into the extent to be consumed, it displays the power the individual can consume. If the person has handed the stipulated volume of calories, then it suggests the exercising to burn the additional range of calories.**

**Index Terms - Android, nutrition**

## I.INTRODUCTION

Technology is evolving at a quicker pace, than it used to be a decade ago. With the introduction of hand-held cell devices, technology has reached all segments of population. The device manufacturers are striving challenging to enrich the consumer experience with easy-to-use cell phones, capsules etc. There are a wide variety of functions that are being developed to run on these devices. To again these applications, gadget needs a powerful Operating System. One such OS which is the major technological breakthrough is Android.

The increase in number of mobile phones having Android OS has resulted in amplify in range of third-party applications. There are wide variety of purposes which have brought together Technology and many other fields. One such application tried for fantastic coalesce of Technology and Nutrition is “healthWISE”.

In India, the numbers of mobile cellphone customers are increasing at a widespread rate. As Android became popular, there is a radical shift in the cell

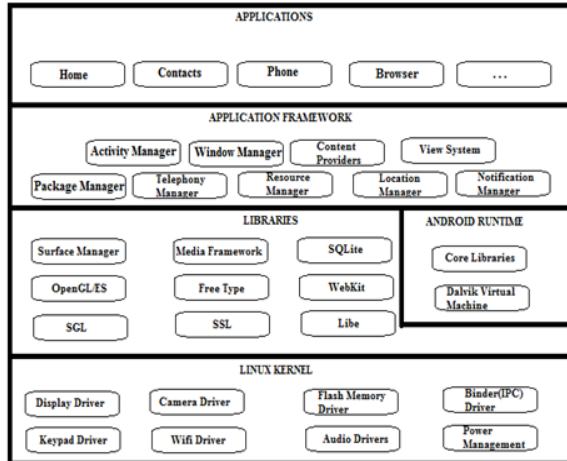
telephone market. On the other hand, customers have come to be more health-conscious and dieticians or nutrition experts are gaining prominence. Nevertheless, humans care about their family’s health. So, to converge all these paths into one, it seemed that if a person can get statistics about a food product that the person comes across in a supermarket, an advice that can help to make decision whether to buy the product and use it or not. This can be executed using a mobile cellphone supported with Android. This paper describes the procedure and end result of such an application “healthWISE” – which has been named so to signify most important intentions (a) Application helps to protect user’s health wisely (b) Application in terms of health.

## II.LITERATURE SURVEY

### A. Android Architecture

Android platform has a software stack with working System, middleware, and key applications. The layers are the kernel, utility framework layer, purposes layer and the libraries. The software layer is the region all purposes are present. The software program framework layer Provides APIs and managers to help the developer take gain of the features of Android [7]. Android functions are written in the Java programming language. The Android SDK tools collect the code—along with any files and resource files—into an Android package, an archive file with an .apk suffix. All the code in a single .apk file is viewed to be one utility and is the file that Android powered devices use to set up the application. Once hooked up on a device, each Android software lives in its private safety sandbox: The Android running gadget Is a

multi-user Linux desktop in which each application is a unique man or woman [8].



**B. Why Android?**

The ease of improvement and deployment on to a cellular phone is the primary cause of deciding on Android to set up the application.

**III. DESIGN**

When the User installs “healthWISE”, man or female desires to create own profile and family’s profile. After profile creation, individual can exchange or delete any of the profiles. In the supermarket, purchaser comes during a packed substances Product. Application can be used to capture barcode. If the lens is unable to focal factor barcode due to terrible light or any particular reasons, patron can enter the barcode manually in the residence provided. Mobile fetches nutritional records of the product from the server. Since this fact is huge, it is saved in the server recognised as as Nutrition Server. If the consumer desires to purchase it, consumer can check if it suits the calorie necessities for That day. Again, the cellphone interacts with server to get Suggestions and suggests it on the screen. This software program has been divided into three modules: Requirement module, Nutrition module, and Exercise Module.

**A. Requirement Module**

This module contains features to create user profiles, update consumer profiles and store them in phone’s storage area. When the person installs the application, welcome screen is displayed with alternatives to create a profile [Table 1]. User can do so by the usage of a

form furnished and is stored in phone’s Database. Once the profile is created, there is an alternative to update or delete the profile. For every action, suitable toast messages are popped up to assist the user. The database contains tables such as Nutrition Requirements for an Individual [1-6], product information, each day log to keep log of user’s consumption facts and workout chart – that contains recommended workout routines to burn calories.

**B. Nutrition Module**

This module comprises features to capture/enter barcode, retrieve information, test the extent electrical energy the consumer can devour in a day, and add it to the database.

After the profile is created, consumer can seize the barcode. After the barcode is captured, if the product is stored in database, then its important points are fetched from the server using Web Services. The protocol used is Simple Object Access Protocol (SOAP). SOAP makes object get entry to simple through allowing purposes to invoke object techniques or functions, residing on remote servers. A SOAP application creates a request block in XML, offering the statistics wished by the far-off method as nicely as the location of the remote object itself. Though Android SDK does no longer grant SOAP library, but ksoap2 library accessible online [5], which is easy to recognize and implement, can be included. The suggestions are displayed in inexperienced colour, to signify that user is inside allowed power limits and person can consume the product and if the pointers are in purple colour, it Signifies user has exceeded the limit. So, the user can decide whether or not to purchase the product or not, for very own consumption or any of family members. Time of Consumption is additionally provided – breakfast, lunch, or dinner. In future, waiting for that most of the meals merchandise come with bar-coded packets in India, this can work very effectively. When consumer clicks ‘add’ button indicating that food was once consumed, then it is added into each day log maintained in the server. Mail is dispatched to the user, furnished at the time of registration, about the product bump off and the time of consumption.

**C. Exercise Module**

This module has features to shop the exercise routines and the energy they burn and fetch splendid workout

to burn the energy which the character has gained in excess.

IV.IMPLEMENTATION

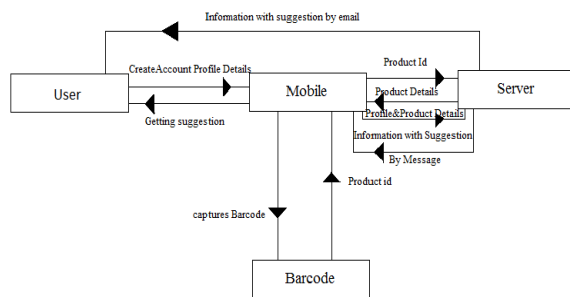
Since the utility is to be developed for Android, we make integral environment set-up and put into effect the software as per design.

A. Environment Set-up

- a. To enhance an application, an Integrated Development Environment (IDE) is required. The preference chosen is Eclipse Indigo IDE.
- b. For an Android utility development, Android SDK and Android Virtual Device (Emulator) are essential. [10]
- c. A new android task is created to increase layouts and code the industrial organization good judgment for the same.
- d. A Java challenge is created to code the web offerings part and for accessing the database.
- e. To enhance this application, we frequently import an open furnish library “ZXing”. ZXing (pronounced "zebra crossing") is an open-source, multi-format 1D/2D barcode image processing library carried out in Java, which ports to exclusive languages. This library presently helps these formats: UPC-A and UPC-E, EAN-8 and EAN-13, Code 39, Code 93, Code 128, QR Code, ITF, Coda bar, RSS-14 (all variants), Data Matrix, PDF 417 ('alpha' quality), Aztec ('alpha' quality).

B. Implementation

Once the indispensable environment is set-up, coding is accomplished as per design. Android layouts can be performed both graphically and the use of XML. The required commercial enterprise frequent sense for the respective graph is coded the use of Java Class. To use any of the phone’s features such as Camera, Internet/Wi-Fi etc., permissions are got via bringing up in AndroidManifest.xml file.



Data flow diagram

The net services phase is coded with the aid of importing ksoap2 Library and the use of the APIs provided.

C. Testing

The application is examined by means of launching the Android Virtual Device of required version of Android. This emulates the device and runs the application just as it would on a actual phone.

The Welcome Screen, which is additionally called the Splash screen. It is the display screen which is popped up when application launches and never indicates up if again button is pressed. That is, it displays solely once all through the walking of application. It shows for few seconds and strikes to next screen or it can be modified via touching the screen.

The Capture Barcode and Update profile buttons are disabled until the user creates profile. Create Profile and Update profile screens navigate to a display screen, which consists of a shape to fill up details such as age, height, weight, exercise and email. Activity helps to figure out the energy required for an individual. Email is taken to ship mail to user regarding the consumption details. This is done so as to have complete record of how a lot a consumer has consumed.

Next display validated consists of selections to go to Camera to seize barcode. Or the man or woman can choose out to enter the barcode. Right side personality names for whom patron wishes to purchase the product. Along with that it additionally displays product information.

Purchaser small print and extent of consumption. Energy break-up for breakfast, lunch and dinner are displayed. And when customer presses take a seem to be at button, inexperienced slight is displayed to exhibit character is internal the energy limits and crimson slight to show off he has surpassed the everyday energy requirements, and a set of workout routines to burn the greater strength is displayed.

The effects for the following inputs have been tablated:

SI NO	User Input						
	GENDER	AGE	HEIGHT(cms)	WEIGHT(kgs)	STANDARD ENERGY (kCal)	Activity	Required Energy(kCal)
1	Male	20	170	60	2200	High	2750

User Input

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