

# Android BMI Calculator

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**Abstract-** *The BMI calculator app is a software application which avoids more manual hours that need to speed in personal calculate and find the BMI for a particular person at a single click. This application keeps both the standard in it ie American standard and indian standard too. The major goal is to keep once health in good shape. The body mass index (BMI) is that the metric currently in use for outlining anthropometric height and weight characteristics in adults and for classifying them into groups. The common interpretation is that it represents an index of an individual's fatness. It is also widely used as a risk factor for the event of or the prevalence of several health issues.*

## I. INTRODUCTION

Android powers hundreds of millions of mobile devices in more than 190 countries around the world. It's the largest installed base of any mobile platform and growing fast—every day another million users power up their Android devices for the first time and start looking for apps, games, and other digital content. Android gives you a world-class platform for creating apps and games for Android users everywhere, as well as an open marketplace for distributing to them instantly.

Body mass index (BMI) is an estimate of body fat based on height and weight. It doesn't measure body fat directly, but instead uses an equation to make an approximation. BMI can help determine whether a person is at an unhealthy or healthy weight. A high BMI can be a sign of too much fat on the body, while a low BMI can be a sign of too little fat on the body. The higher a person's BMI, the greater their chances of developing certain serious conditions, such as heart disease, high blood pressure, and diabetes. A very low BMI can also cause health problems, including bone loss, decreased immune function, and anemia.

While BMI can be useful in screening children and adults for body weight problems, it does have its limits. BMI may overestimate the amount of body fat in athletes and other people with very muscular bodies. It may also underestimate the amount of body fat in older adults and other In this generation, there are many existing technologies that help to distinguish healthy from unhealthy persons.

Many software developers created an application that monitors man's proper weight according to height. These include BMI calculators that exist on application stores that can be downloaded through internet. This software requires height and weight to measure the body fat. It provides correct information of the body that you can track on a consistent basis.

It determines exactly what size you should be for your specific build. Before 1980, doctors generally used weight-for-height tables, one for men and one for women that included ranges of body weights for each inch of height. These tables were limited because they were based on weight alone, rather than body composition.

## II. HOW TO CALCULATE BMI MANUALLY:

People who want to calculate their BMI can use a simple formula using their height (in kilograms) and weight (in metre). Divide the weight (in kilograms) by the square of height (in meters) to calculate the BMI.

$$BMI = \text{weight (kg)} / \text{height}^2$$

According to the World Health Organization, the body weight values (kg/m<sup>2</sup>) for adults (men and women above 18 years of age) are:

Underweight - less than  
18.5 Normal- 18.5 - 25 Overweight -25-  
30 Obese -  
above 30

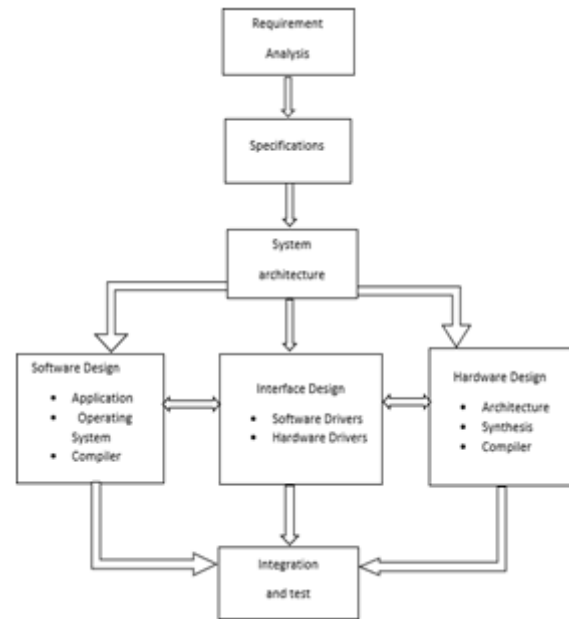
## III. SOFTWARE DESIGN

The proponents used the waterfall development method in developing the software part by which the analysts proceed sequentially from one phase to the next. The advantage of this method is system requirements were first identified the programming begins and the changes in the requirements were minimized as the project roceeds. The phase by which the proponents to conducted the research to have an idea on what design to choose for the BMI proposal was in the planning phase. The proponents identified the problem that will be solved by the design. Then, the design

proponents constructed the title suited for the design solved description. The analysis phase was done after the planning. In the analysis phase the proponents should determine the users and the function of the system. The proponents analyzed the problem finding out that people want to enhance the way of measuring their BMI by automating it. Next, requirements were gathered to know the functions needed in building the design project. They also gathered information on what programming language to use in doing the system.

After gathering the information needed, the proponents proposed the design to the Adviser as well as to the panel. When the proposed design was approved by the panel, the proponents did the next phase which was the Design phase. This phase decided how the system will operate and what to use in terms of software development. In the Design Phase, the proponents chose a design strategy to work out with the team and come up with the deadline of the design project. This phase includes the development of the software as well as the coding of program. The proponents distributed the software programs to MCU. After uploading the software it was implemented to the hardware to test its functions if it will work or not to the hardware. The last phase was the Implementation phase where, the installation of the design was completed. After installation, the proponents did the testing to check the accuracy and functionality of the software it was implemented to the hardware to test its functions if it will work or not to the hardware. The last phase was the Implementation phase where, the installation of the design was completed. After installation, the proponents did the testing to check the accuracy and functionality of the design. For the reliability of the design, the proponents chose five users to evaluate the design. By this waterfall development-based methodology the designers got the output “Automated BMI Calculation” with working and tested functionalities.

**IV. SYSTEM ARCHITECTURE**

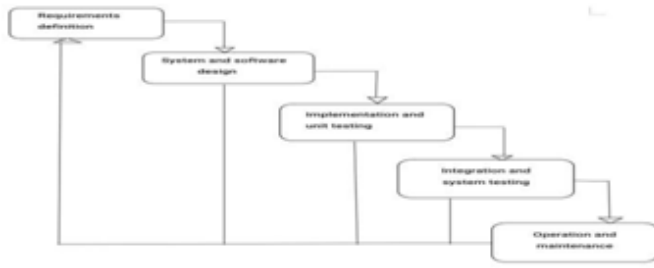


**V. OVERVIEW OF BMI CALCULATOR:**



**VI. METHODOLOGY**

This research adopts the steps of waterfall model which progress from one phase to another linearly



Waterfall model was chosen because parts of the application are generally well understood. It can be observed from Figure that the study commenced with stage 1 - the requirements specification. User and application requirements need to be gathered in order to obtain clear picture pertaining to the specific features of the application.

**VII. RELATED WORK**

In order to design and develop BMI Calc Android Application, few related works have been reviewed. The related works are summarized as in Table 1, starting from the earlier published work to the most recent ones.

Source	Technique	Feature Used	Domain	Disadvantage/Advantage	Future Direction
Sowah, Buadu and Fiarwoo [4]		Modules: BMI Calculator, Food Calorie Calculator, Mealtime Planner and Disease Risk Determinator		User friendly interface	
Rao and Krishna [5]	Android Architectural Framework	Modules: BMI/BMR Calculation, Exercise Caloric Calculation, Recommended Exercise	Health	Interfaces are not user friendly	Implement on other mobile platforms apart from Android
Madariaga and Linsangan [6]	Artificial Neural Network	Obtaining height using camera and measuring weight using load cell	BMI	The bottom line detected by searching for horizontal line on the pattern on the floor	Height estimation is better if higher pixel rating is used

**VIII. CONCLUSION**

While BMI is fast and easy to calculate, it should not be the be all end all of determining whether or not someone is at a healthy weight.

However, if someone has a low BMI, or a really high BMI, that should single the potential for health problems and that person should see their doctor to discuss this.

These results indicate that the association between sustained BMI and emotion is not uninformed across race and gender, and our group membership greatly alters these associations.

Thus there requires an understanding of culture in order to address this issue, and clinical and public health interventions and programs should be tailored to the target population in order to be effective.

The technology nowadays converted manual into Automatic process, which becomes more efficient in everyday usage. Also, it is helpful for them because PCs now are needed at the workplace. The proponents used this as an advantage in monitoring the health status of patients or students. The purpose of this study is to calculate the weight and height measurement and display its BMI measurement automatically upon entering in the system jamb and save the BMI measurement in the system’s database. The proponents developed an embedded system which composed of two microcontrollers; holding the ultrasonic proximity sensor for the measurement of height and loading cell for the measurement of the weight of the test subject. The proponents have combined this function by gathering the data coming from each module to come up with the needed result.

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