A Report on

BMI Calculator

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Submitted by

Md Masum Rana

Student ID: 1902005

Level- 3, Semester- I

Dept. of Computer Science and Engineering

Hasi Rani Roy

Student ID:1902031

Level- 3, Semester- I

Dept. of Computer Science and Engineering

Al Mahmud Siam

Student ID: 1902062

Level- 3, Semester- I

Dept. of Computer science and Engineering

Department of Computer Science and Engineering, Hajee Mohammad Danesh Science & Technology University, Dinajpur-5200

Faculty of Computer Science and Engineering, Hajee Mohammad

Danesh Science & Technology University, Dinajpur -5200

CERTIFICATE

This is certify that Md Masum Rana, Al Mahmud Siam and Hasi Rani Roy submit this project work entitled “BMI Calculator” is carried out in partial fulfillment for the award of the degree of bachelor of science (engineering) in computer science and engineering. This is a record of their own work carried out by them under of supervision and guidance.

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Supervisor

Md. Sohrawordi
Assistant Professor
Dept. of Computer Science and Engineering

Acknowledgment

We would like to express our thanks of gratitude to , Md. Sohrawordi, Assistant Professor, department of computer science and engineering who gave us a golden opportunity to do this project and also provided support in completing in our project. His heartiest & kind Cooperation during our project work makes the dream real & we succeed to complete our project.

While we were preparing this project file, various information that we found helped us in chapter of profile adding and we are glad that we were able to complete this project and understand many things. Through preparation of BMI Calculator project was an immense learning experience and we inculcated many personal qualities during this process like responsibility, punctuality, confidence and others.

We would like to thank to our supervisor who supported us all the time, cleared our doubts and to our parents who also played a big role in finalization of our project file. We are taking this opportunity to acknowledge their support and we wish that they keep supporting us like this in the future.

A project is a bridge between theoretical and practical learning and with this thinking we worked on the project and made it successful due to timely support and efforts of all who helped us.

Once again, we would like to thank our classmates and friends also for their encouragement and help in designing and making our project creative. We are in debt of all these. Only because of them we were able to create our project and make it good and enjoyable experience.

Abstract

Overweight and obesity are significant public health issues in developed and developing countries, not only for adults but also increasingly for children. The issue of body weight as a risk factor for chronic diseases such as diabetes, heart disease, stroke and cancer has increased dramatically over the last decade in Malaysia. In our study, a system has been developed to calculate a person's BMI. In this study, we have developed the system using the java concept in the phase of Graphical user interface programming (GUI). The aims for this study are to learn and understand programming with Graphical User Interface (GUI). From this study, the outcomes from this learn more about how to construct object-oriented program using (GUI). The conclusion, system equipment need out achieve the objective the system development using Graphical user interface (GUI).

Keywords:

BMI, Table, Keys, Attributes, Entity, Entity set, Relations, E-R model, Database, SQL, software model, testing.

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Chapter 1

Introduction

1.1 INTRODUCTION:

The body mass index (BMI) is a widely used tool to evaluate overweight and obesity based on two anthropometric parameters, height and weight.The overweight (Body mass index [BMI] for age and sex from the 85th percentile to the 95th percentile) and obesity (BMI for age and sex greater than or adequate to the 95th percentile) are related to the present and future health of youth also as their academic success. Youth classified as overweight or obese are more likely to be diagnosed with prediabetes (impaired fasting glucose or impaired glucose tolerance) and have more cardio metabolic risk factors than normal weight youth. Various methods for assessing body composition, used for children and adolescents in research settings (for example hydro densitometry, plethysmography of air displacement, isotope dilution, two-energy X-ray absorptiometry). The use of these methods in a community setting is limited. As a result, measuring height and weight to calculate body mass index is recommended for overweight/obese people in screening for the younger generation. (BMI? body weight (kg) / height (square meters).

Android is used in over 190 countries and powers hundreds of millions of mobile devices. It has the largest installed base of any mobile platform and is rapidly expanding—every day, a million new Android users turn on their devices for the first time and begin searching for apps, games, and other digital content. Android provides you with a world-class platform for developing apps and games for Android users around the world, as well as an open marketplace for quickly distributing them. This Android application has handy tools for arithmetic, scientific, and converting calculations. It would be particularly useful for students, as they account for the bulk of smartphone users in today's world, and they require tools to help them with the lengthy calculations they must perform in their studies.

Chapter 2

Existing System

2.1 EXISTING SYSTEM:

The existing system is very time-consuming and complex to calculate. Calculators are small electrical devices that can perform basic and advanced calculations in a fraction of a second. The concept of a unit is created using a Franchise, which was first used in 2000 BC; after a number of inventions and mechanical counting machines were developed. The scientific calculators were created to assist in performing scientific calculations. However, in the 21th century, when people started using with personal computers, tablets, mobile phones and other electronic devices, so what to wear such as calculators?

2.2 DISADVANTAGES:

The existing system has the following disadvantages:

- It takes a long time.
- A great deal of time and effort is squandered.
- There is a waste of pages.
- It's difficult to keep outdated records up to date.
- Queries are difficult to implement.

Chapter 3

Proposed System

3.1 INTRODUCTION:

The BMI App provides us with all of the necessary information, such as health recommendations and advice on what to eat and what to avoid. When we enter our height and weight, we are given all relevant information, such as if we are overweight or underweight.

3.1 PROPOSED SYSTEM:

The BMI Calculator Application is a software program that eliminates the need for more manual hours to calculate and locate the BMI for a specific person with a single click. This application incorporates both American and Indian standards. This application provides all of the information in both standards that is not available in any other application. BMI is calculated the same way for both adults and children. The calculation is based on the following formulas:

Measurement Units	Formula and Calculation
Kilograms and meters.	**Formula:** weight (kg) / [height (m)]^2 With the metric system, the formula for BMI is weight in kilograms divided by height in meters squared. Because height is commonly measured in feet and inch, multiply feet by 12 to convert feet into inch then multiply inch by 0.0254 to convert meters. **Example:** Weight = 68 kg, Height(feet)=5 Height(inch)= 4.Then. Height(meters) = ((5*12)+4)*0.0254=1.63m. **Calculation:** 68 ÷ $(1.63)^2$ = 25.59.

Table 1. BMI calculation formula

BMI table :

This is the World Health Organization's (WHO) recommended body weight based on BMI values for adults. It is used for both men and women, age 18 or older.

Category	BMI range - kg/m2
Underweight	<18.5
Normal	18.5 - 25
Overweight	25 - 30
Obese	30 - 35
Extremely Obese	>35

Table 2. BMI table

3.2 Technologies Used:

Hardware requirements:

Processor: Intel core i4

RAM: 4GB Hard

Software requirements:

Operating System: Windows 10

Developing Language: Java & Java Swing

Database: MySQL

XAMPP Server , NetBeans IDE

3.3 E-R Diagram:

Entity-Relationship diagrams are used to show the relations between the entities used. Several entities are used to build our project. Those are-

Login Entity, Registration Entity, View Entity, BMI Entity, Search Entity, Continents Entity.

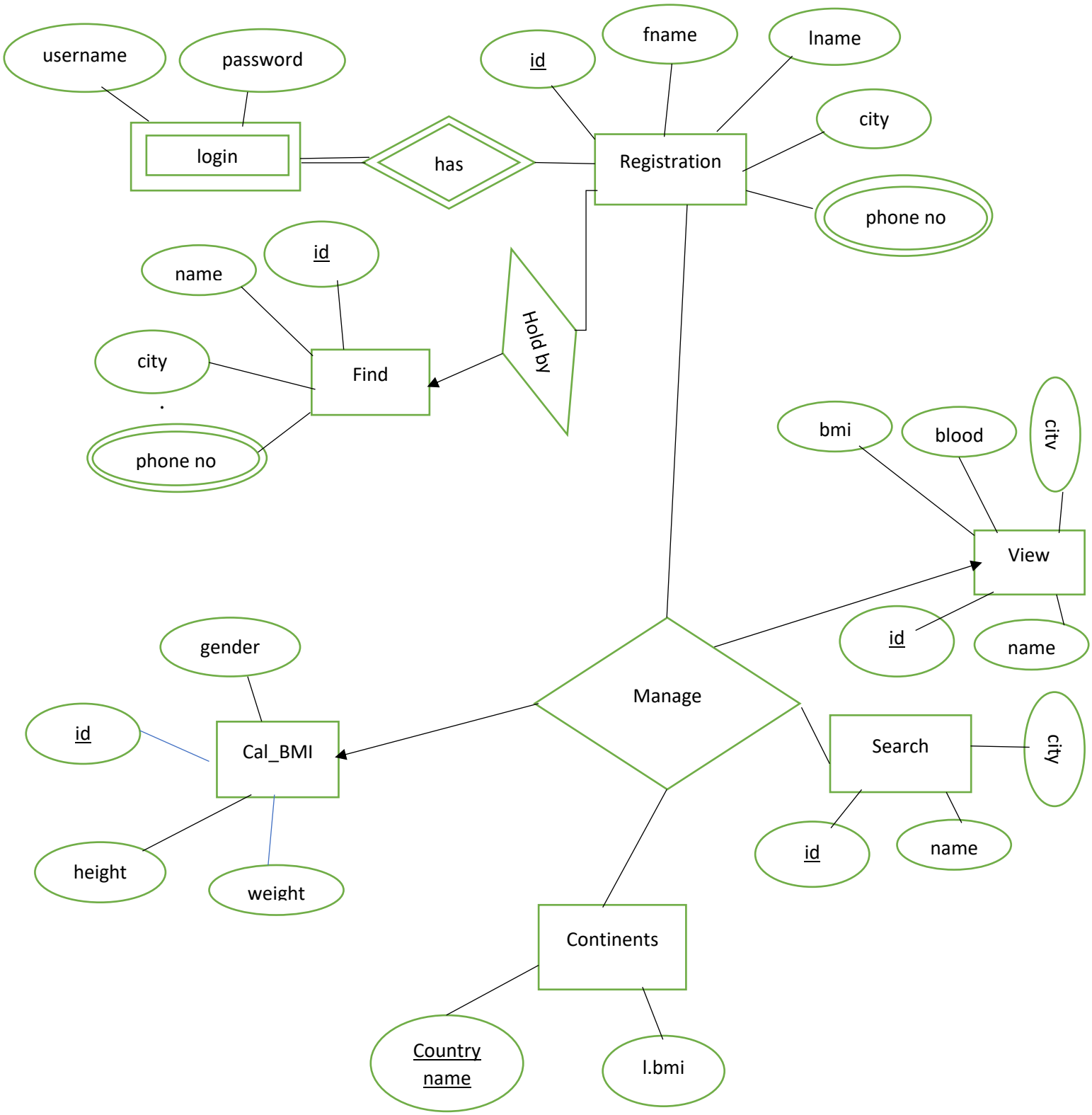


Fig.1 Entity-Relationship Diagram of BMI Calculator

This ER diagram reflects the relationship between the entities mentioned above to realized our project and its goal.

3.4 Use-Case Diagram:

Use-case diagram use to show the different aspects of actions of different users used in a system. In our project we used one types of users, namely-

- User : Users can login, registration, search, add, edit, delete, calculate bmi, view, continents bmi activities.

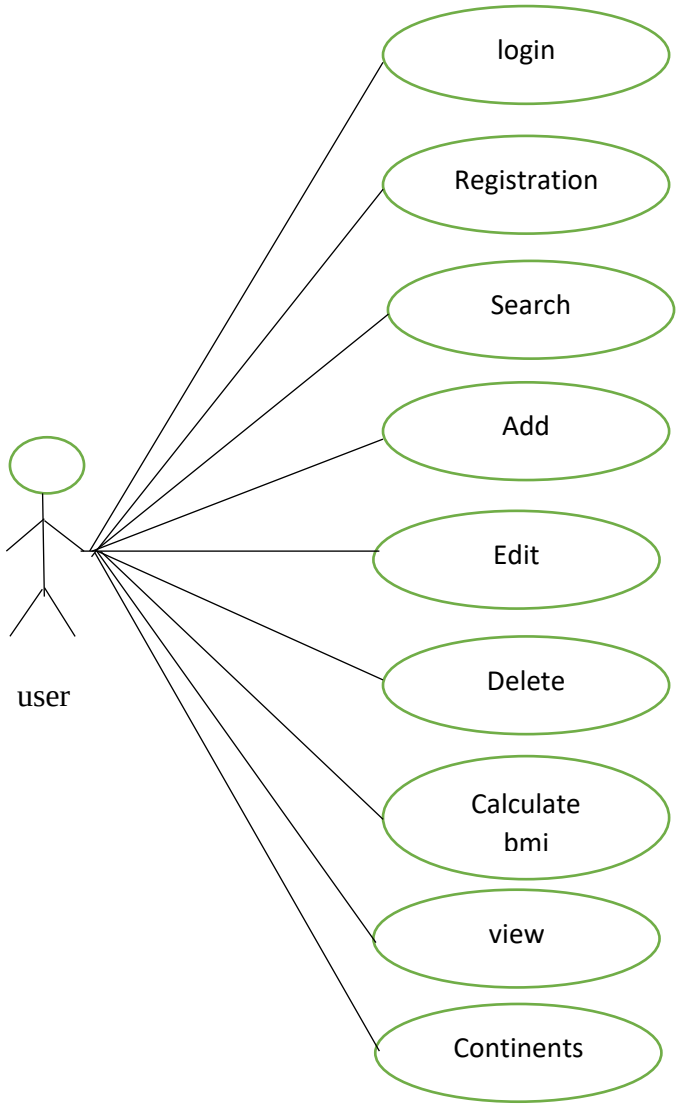


Fig.2 Use-case diagram of BMI Calculator

3.5 Activity Diagram:

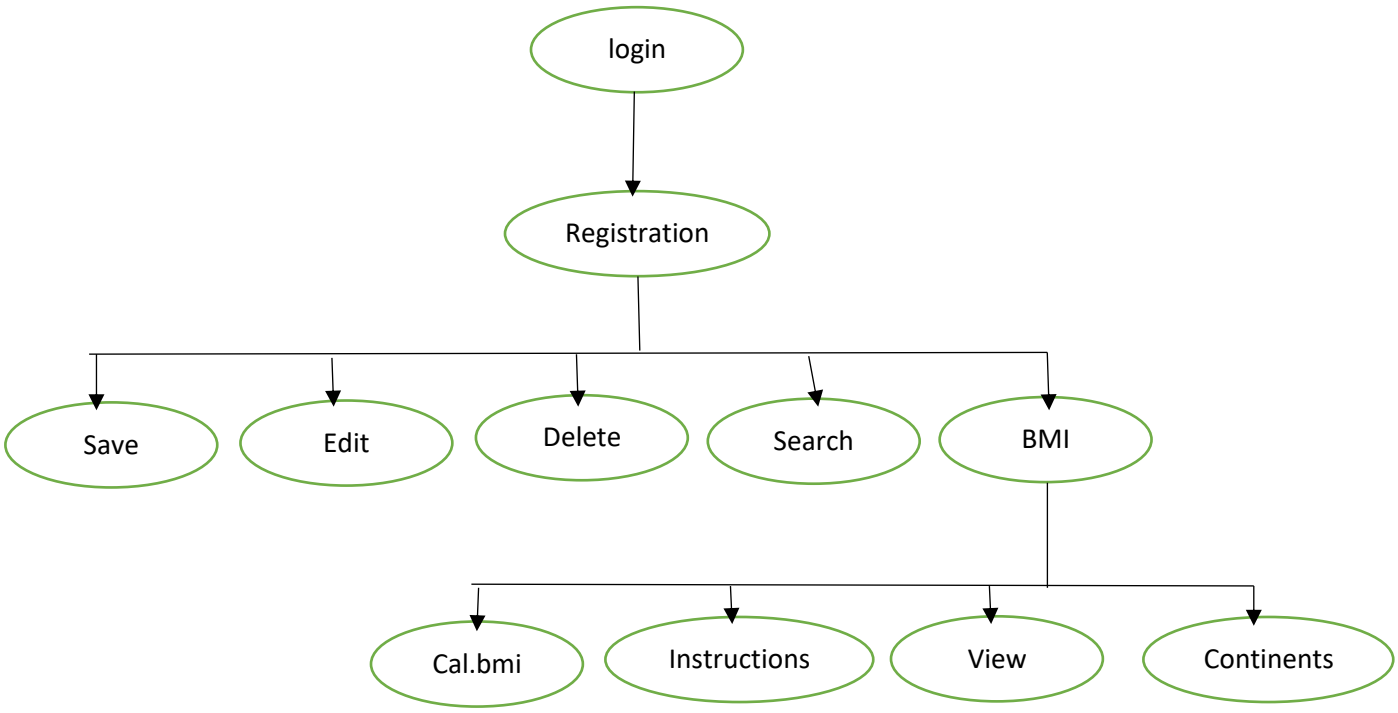


Fig3. Activity diagram of BMI Calculator

3.6 Development Process:

Every workgroup or teamwork want to make a software application for a specific environment, it should follow a lot of primary steps to complete the intended software. Figure 3.1 shows the system development life cycle:

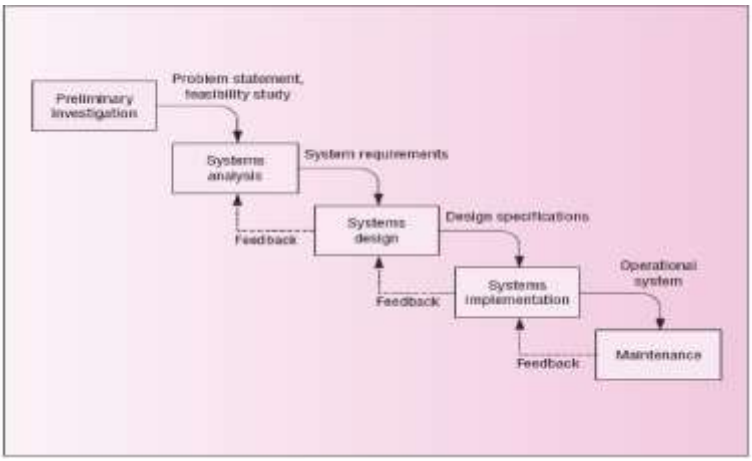


Fig 4. Traditional systems development life cycle

3.6.1 Feasibility study:

We have achieved some important results as follows:

1.This project is helpful because the target environment does not use computers.

2.Because of the intensity of employees present in a large company and the slow work in their proper management, due to manual management (EIS) will save time and effort.

3.6.2 Information and data collection:

Information and data is the first thing that we started to collect from many sources which is related to human resource management information environment, such as the a software company which we take it as a model for our work.

3.6.3 Information analysis

Information analysis was the second stage of our work, we learnt how to differ between the data which will be entered daily monthly and annually, and also we knew the nature of the employee management and pay reports.

3.6.4 System analysis

System analysis was the third stage of our work, we know and wrote everything about the correlation between the different organizational units, the employee management mechanism inside the organizational and structure of the various units.

3.6.5 System design

In this phase we design our project into different module.

3.6.6 Testing

After finishing design phase, we test our project. To test this project we used two types of software testing, namely

- Unit Testing: We tested each part or functionalities of the project individually. According to the results of the testing, our project evolved towards our objectives.
- Acceptance Testing: We used alpha testing as our project for acceptance testing.

Chapter 4

Result and discussion

4.1 INTRODUCTION:

By analyzing the characteristics, qualities and success rate, it is prominent that the BMI Calculator services any people. Since we have limited space here, we can't show all of the output of our project except a selected few as highlights. These are:

4.2 OUTPUT:

CV Manager output is shown with the help of screenshots-

i) Login page:

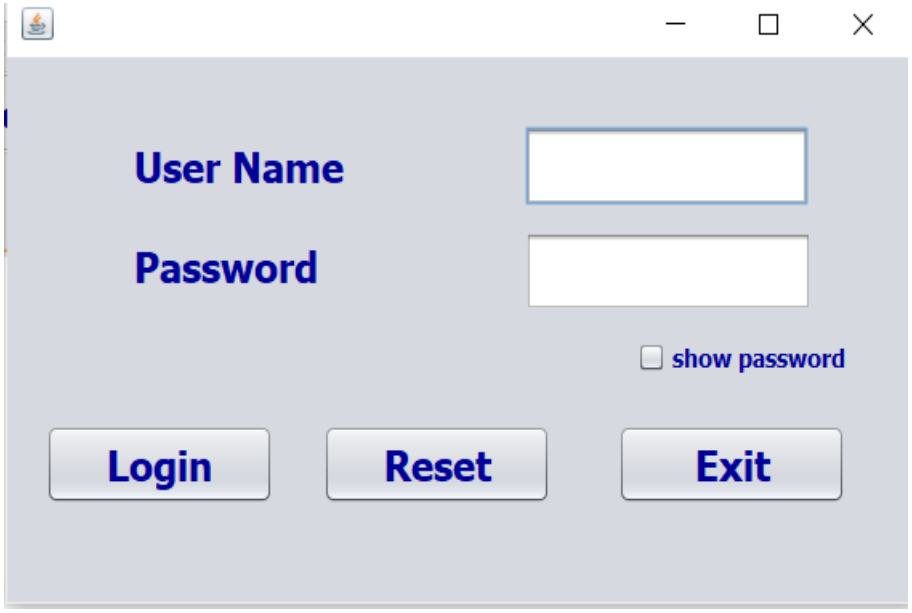


Fig 5. First page for BMI Calculator

When you want to calculate BMI then you have to click on the application and open it. After opening the application then you enter username and password in the Login Frame and then click Login button. (Refer fig. 2)

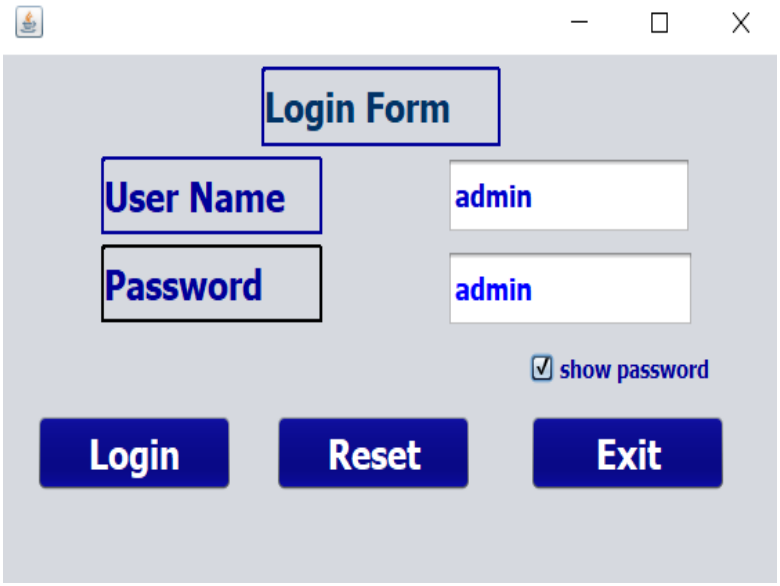


Fig. 6. Login page of BMI Calculator

i) Input & Output:

Fig. 7 Registration Form of BMI Calculator

In above Fig. 7 it stores some basic information about user. If you want to calculate your BMI you must need to fill up this registration form. Besides you can save, edit, delete and search etc activities in this tab.

After fil up this page you will click Main Table button and see main page.

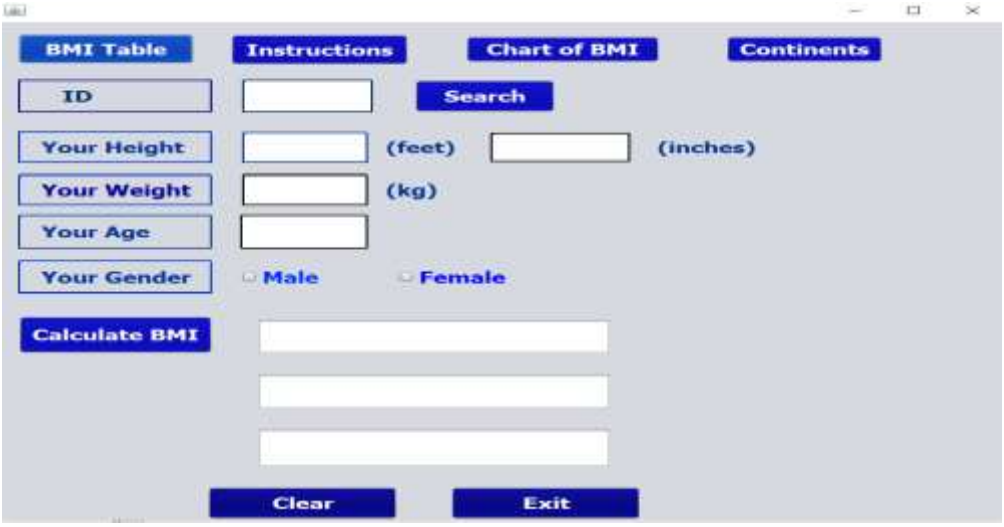


Fig 8. Main Page of BMI Calculator

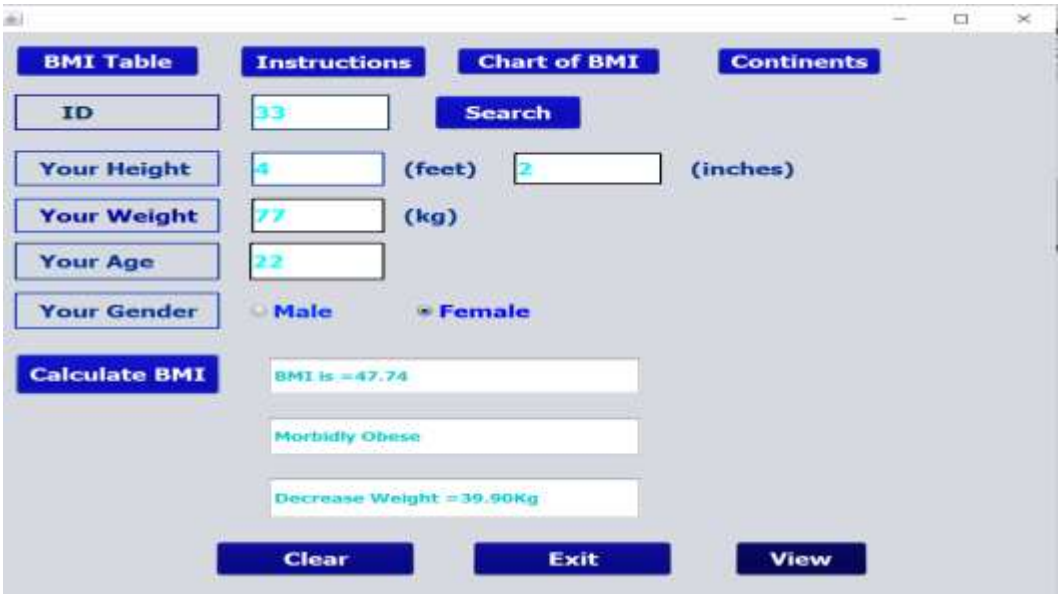
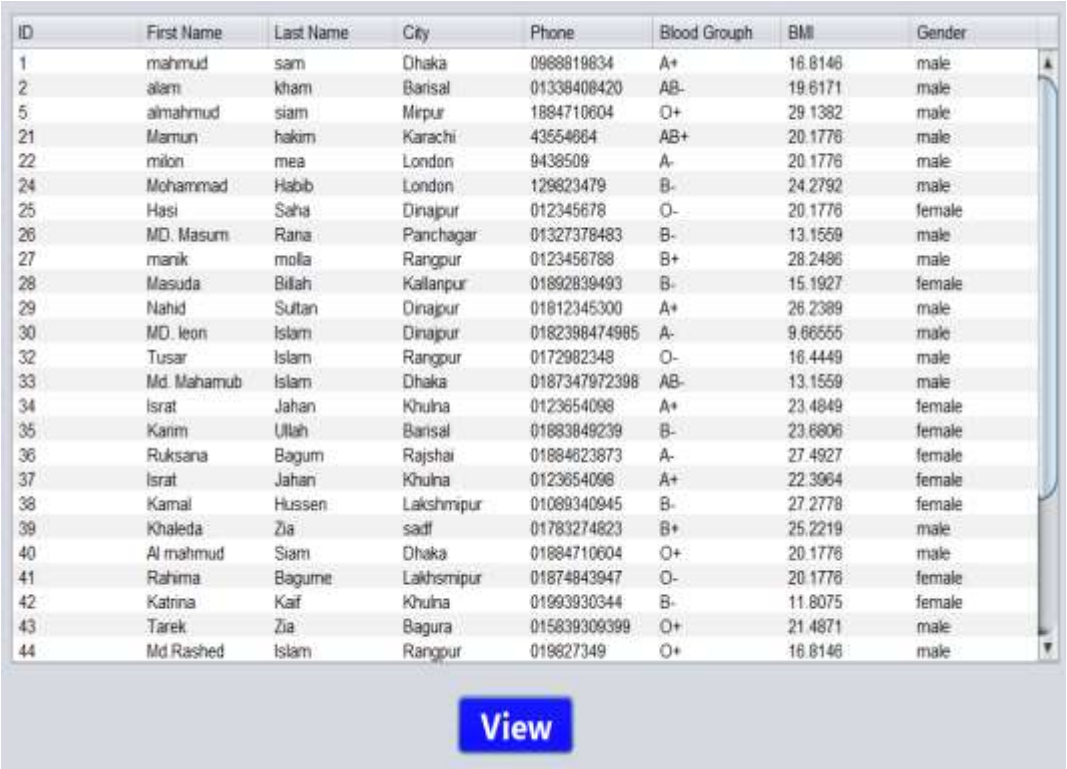


Fig.9 Calculate BMI

In fig.9 here you will first enter your id then height, weight, age, gender respectively and then click Calculate button. Now you can see your BMI.

In this tab if you will want to see the information that you need for your better treatment, you will click just Instruction button. Again by clicking Chart button, you will know about basic information of BMI.



ID	First Name	Last Name	City	Phone	Blood Grouph	BMI	Gender
1	mahmud	sam	Dhaka	0988819834	A+	16.8146	male
2	alam	kham	Barisal	01338408420	AB-	19.6171	male
5	almahmud	siam	Mirpur	1884710604	O+	29.1382	male
21	Mamun	hakim	Karachi	43554664	AB+	20.1776	male
22	milon	mea	London	9438509	A-	20.1776	male
24	Mohammad	Habib	London	129823479	B-	24.2792	male
25	Hasi	Saha	Dinajpur	012345678	O-	20.1776	female
26	MD. Masum	Rana	Panchagar	01327378483	B-	13.1559	male
27	manik	molla	Rangpur	0123456788	B+	28.2486	male
28	Masuda	Billah	Kallanpur	01892839493	B-	15.1927	female
29	Nahid	Sultan	Dinajpur	01812345300	A+	26.2389	male
30	MD. leon	Islam	Dinajpur	0182398474985	A-	9.66555	male
32	Tusar	Islam	Rangpur	0172982348	O-	16.4449	male
33	Md. Mahamub	Islam	Dhaka	0187347972398	AB-	13.1559	male
34	Israt	Jahan	Khulna	0123654098	A+	23.4849	female
35	Karim	Ullah	Barisal	01883849239	B-	23.6806	female
36	Ruksana	Bagum	Rajshai	01884823873	A-	27.4927	female
37	Israt	Jahan	Khulna	0123654098	A+	22.3964	female
38	Kamal	Hussen	Lakshmipur	01089340945	B-	27.2778	female
39	Khaleda	Zia	sadf	01783274823	B+	25.2219	male
40	Al mahmud	Siam	Dhaka	01884710604	O+	20.1776	male
41	Rahima	Bagume	Lakhsmipur	01874843947	O-	20.1776	female
42	Katrina	Kaif	Khulna	01993930344	B-	11.8075	female
43	Tarek	Zia	Bagura	015839309399	O+	21.4871	male
44	Md.Rashed	Islam	Rangpur	019827349	O+	16.8146	male

View

Fig.10 View whole information for user

If you will have interest to know the whole information for user whose are use this system, you will click view button and see that you will want.

Chapter 5

Limitations & Future Work

5.1 LIMITATIONS:

Since this is our first web based application project, there are some limitations in this project such as-

- Different country BMI is different.
- It can be different by Gender Like Male & Female.
- It can be different by Age.
- BMI does not differentiate between muscle and fat.
- Pregnant women will also have a higher BMI because of increased weight associated with pregnancy.

5.2 FUTURE SCOPE:

We eagerly want to overcome these limitations in future. We hope the best from this project to serve people in need. This 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. Well I and my team member have worked hard in order to present an improved project/app better than the existing one's regarding the information about the various activities. Still, we found out that the project can be done in a better way. We can add alter msg to her/him to eat and excise.

Chapter 6

Conclusion

6.1 CONCLUSION:

The package was created in such a way that future changes are simple to implement. The following conclusions can be drawn from the project's progress. The efficiency of the entire system is improved by automating it. It has a user-friendly graphical user interface that outperforms the current system. It grants authorized users appropriate access based on their permissions. It effectively solves the problem of time complexity. It has never been easier to keep information up to date. The most notable features are system security, data security, and dependability. If necessary, the System has enough flexibility to be modified in the future.

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