# PROJECT REPORT ON

**“Health Rater”**


Submitted by:

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Course No: CSE 2200

Course Title: Advanced Programming

Platform: Java

Under The Guidance Of:


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## 1. Objectives :

To develop a desktop application using Java which

- Will serve as a guide to achieve good health
- Will store user's health reports
- Can keep track of diseases from which user is suffering
- Will provide a rating depending on user's health condition

## 2. Introduction :

Health is an asset that helps us maintain the balance of life and a sound mind. It's the true elixir for a happy life as it leads to a calm and composed mind. There are probably no greater blessings than being born with zero health issues, but one must not take their good health for granted. There are very few people who understand that riches in terms of wealth would mean nothing if their health is on the line. However, it isn't easy to maintain a good health without any inspiration or guidance . "Health Rater" application is made to provide guidance & inspiration for mainataining good health.

In order to develop the application "Health Rater" , **Java** is used as the primary language and **Netbeans** is used as the IDE . To design the GUI (Graphical User Interface) **, JavaFx** was used . JavaFX is a graphics/UI toolkit which ships with Java**. Scene Builder** is a tool to help build JavaFX GUIs in FXML . JavaFX enables developers to design, create, test, debug, and deploy rich client applications that operate consistently across diverse platforms whereas Scene Builder eases the process of designing layouts with its Drag & Drop feature.

To store data of users in the Database **phpMyAdmin** is used **. phpMyAdmin** is a free software tool written in PHP that is intended to handle the administration of a MySQL or MariaDB database server.It provides GUI for managing databases .It can also be used to directly execute any SQL statement.

To retrieve information from the internet **Jsoup** library is used . **It** is an open source Java library used mainly for extracting data from HTML. It also allows you to manipulate and output HTML. It has a fluent and flexible **API**.

## 3. Implementation :

- **Description :** A good application requires a good security to keep user's data safe from outsider . That is why a login system is implemented .If someone new wants to use this application he/she will have to provide some information about yourself which will be stored in the database .A user can log in using his unique username and password .This will lead the user to the Homepage .

- **Home Page** : It is the page that provides access to all other pages and features .The home page of "Health Rater" includes different buttons
- **Blood Pressure Button** ; Clicking this button will pop a new window that will let the user set his blood pressure . It has two slider for controlling Diastolic and Systolic pressure individually .
- **Heart Rate Button** : Clicking this button will pop a new window that will let the user set his Heart Rate.
- **Tips Button** : This button will open a popup window showing tips about maintaining health .This information are scrapped from a website using Jsoup library .
- **BMI Calculator Button** : This button will open a new scene upon click . The scene has a BMI Calculator. The user has to provide his weight and height and click the Calculate button to calculate the BMI .In order to set the BMI to his profile ,user has to press Update button .
- **Disease Diary Button :** Clicking this button will open up a new page .Disease Diary is feature that lets the user store the names of diseases he suffered in his life time and can also add his current chronic diseases .If user adds any disease by mistake ,there is a delete button to delete the entry from the diary ,The Disease Diary counts the number of diseases and sends them to database .
- **Rating Button :** On button click it will calculate the rating of the user and show it in the home page .The calculation works on a self-made algorithm which takes the BMI, Heart Rate, Blood Pressure and No of Diseases on consideration . The more diseases the user have or the more the user value fluctuates from the standard the less the rating becomes .Depending on rating a warning notification will appear in the homepage .
- **Stats Button :** Clicking this button will open up the statistics page which shows all health information . There is a feature of Barchart in the Statistics page which generates a health record comparing the standard and user data in a graph .This also compares user rating with the average rating of the other users as well .

## ➢ Flow Chart :

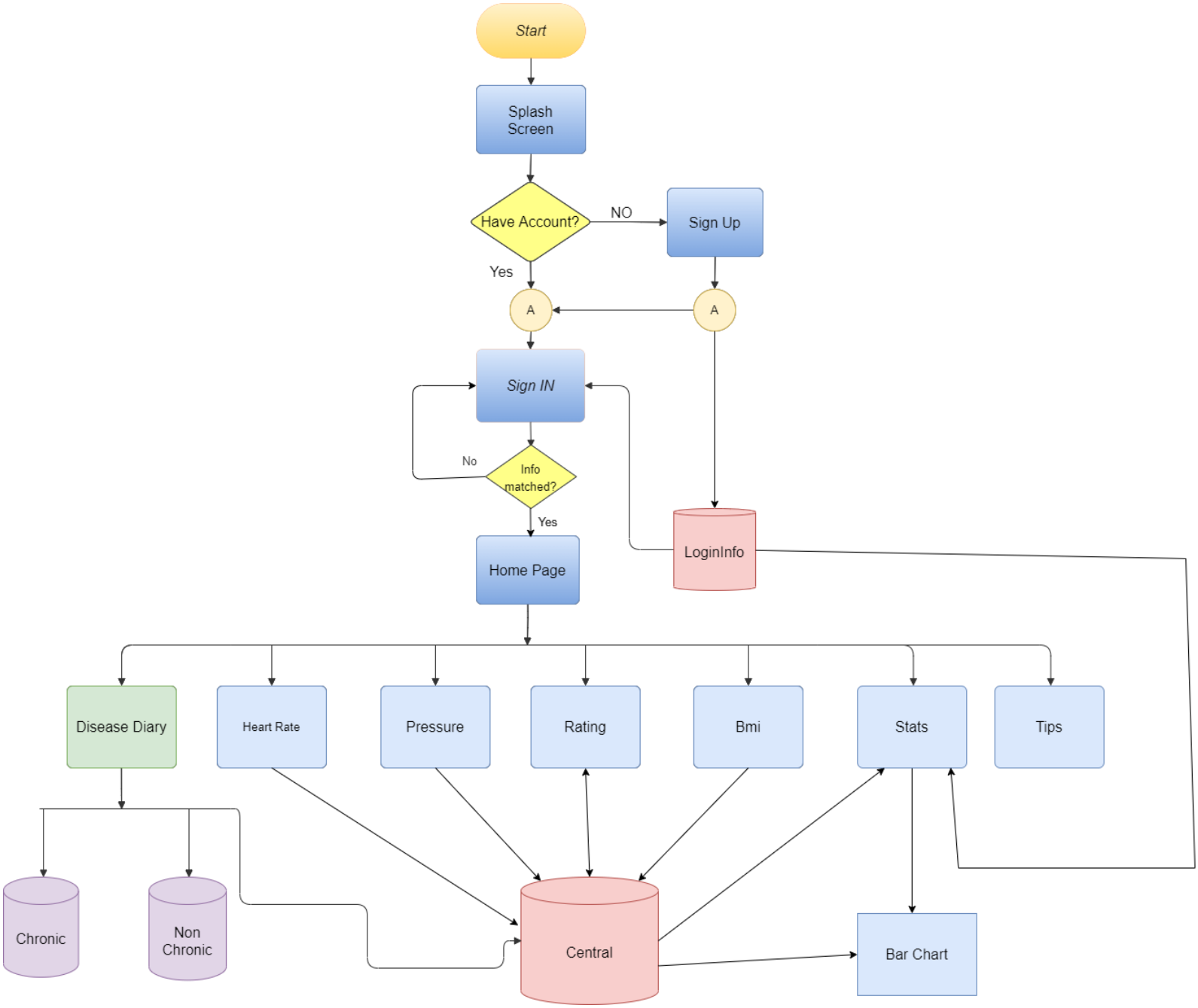


Fig 1.1: Flow chart

## ➢ Schema Diagram :

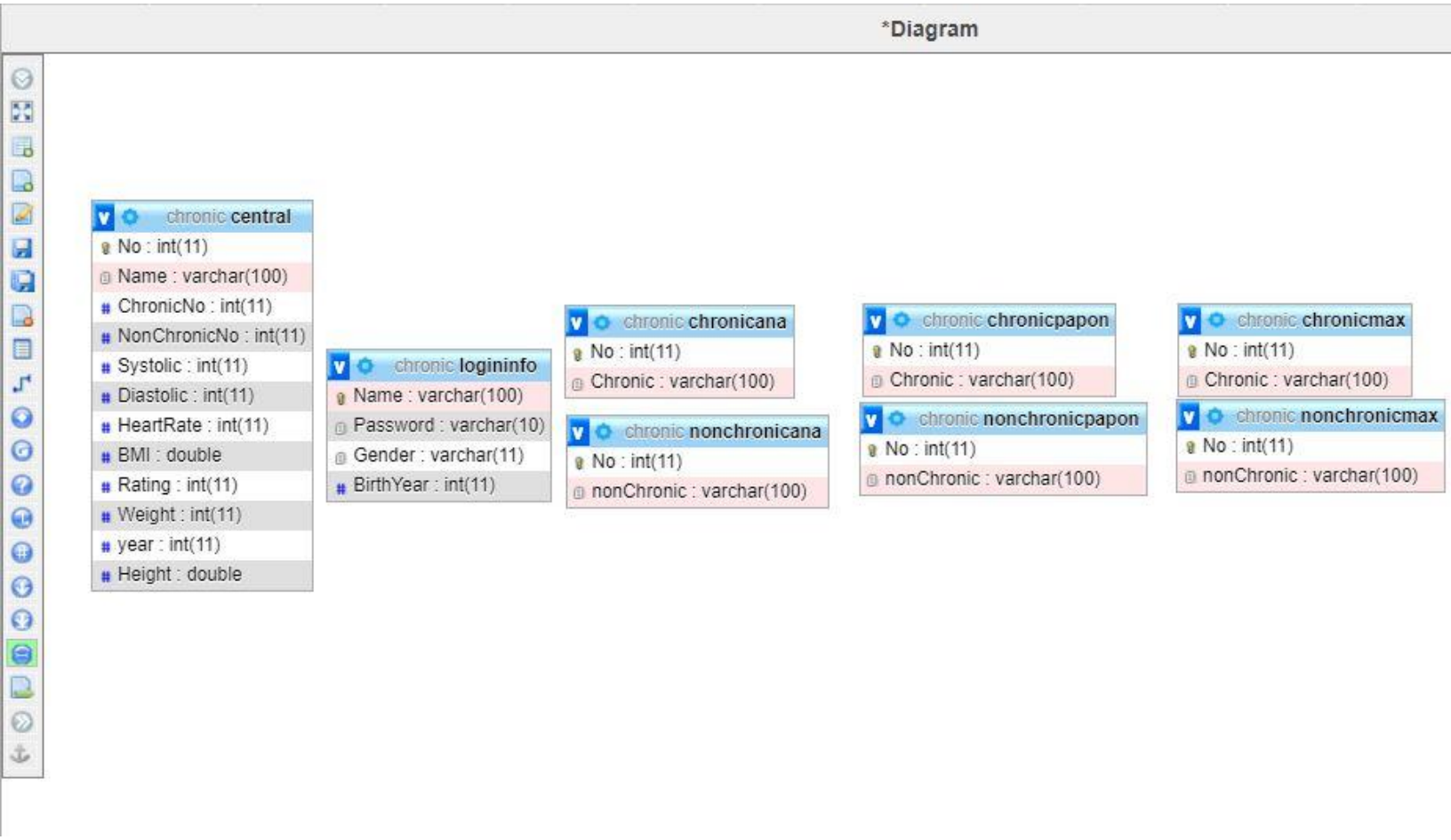


Fig 1.2: Schema Diagram

## ➢ Visualization:


**Fig 1.3: Splash Screen**

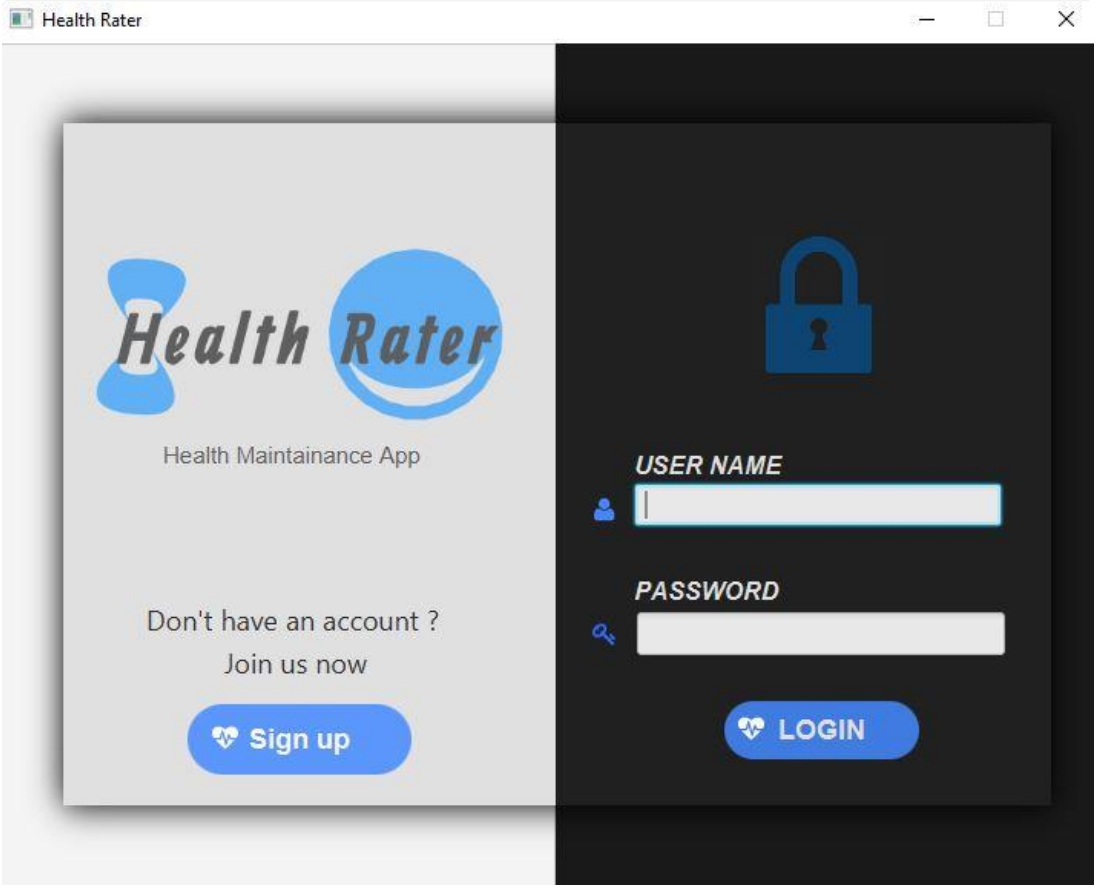


**Fig 1.4: Login Screen**

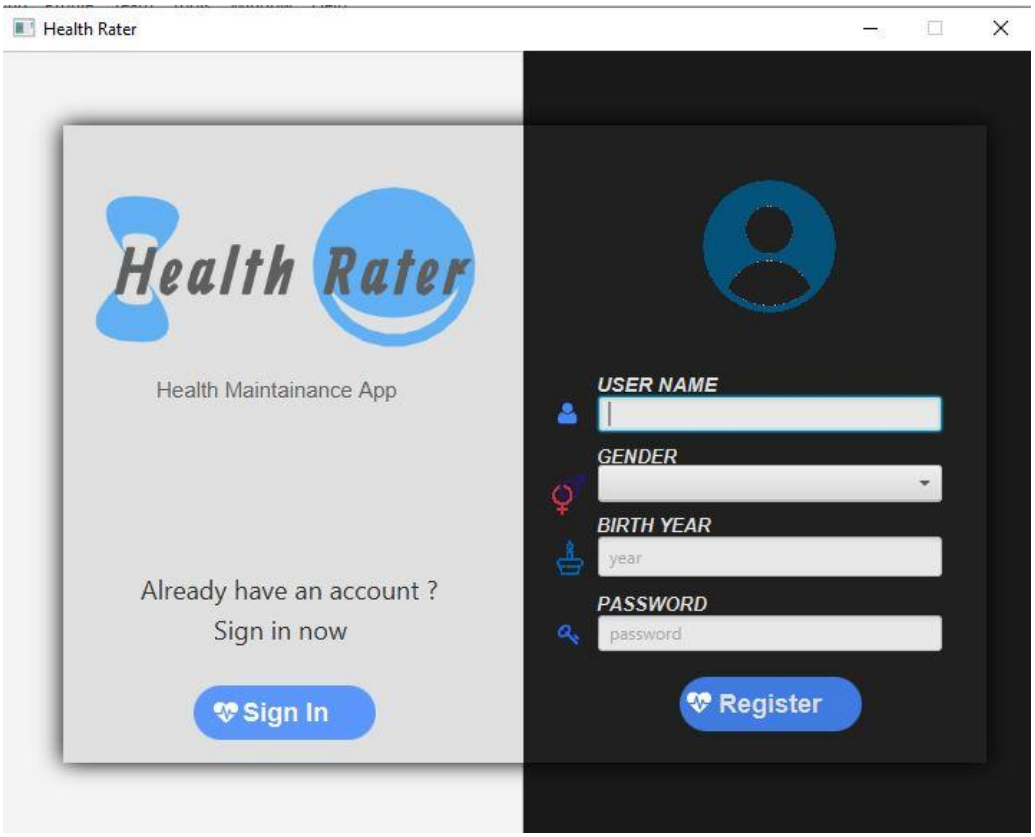


**Fig 1.5: Registration Screen**

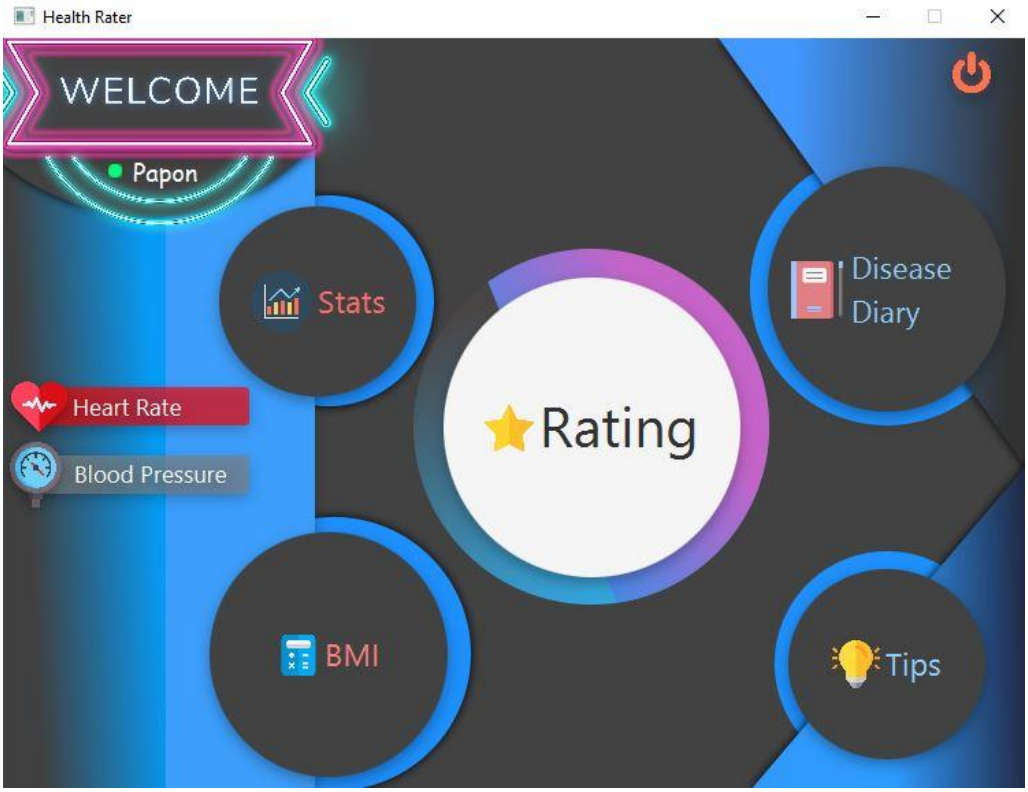


**Fig 1.6: Home Page**

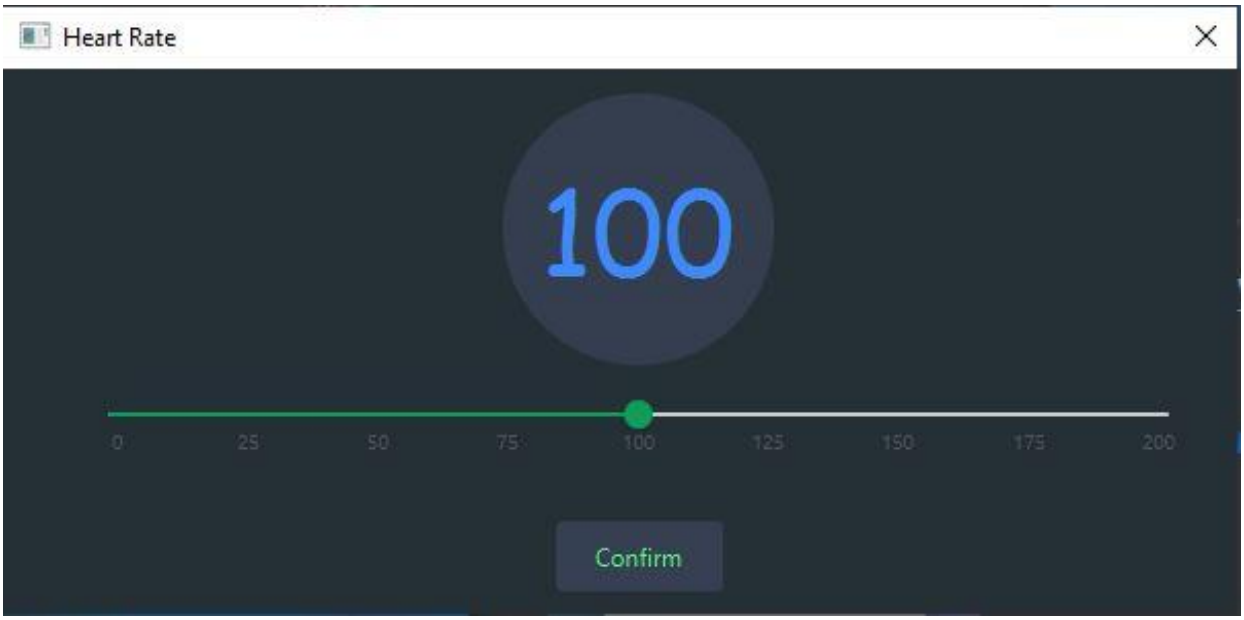


**Fig 1.7: Heart Rate Popup**

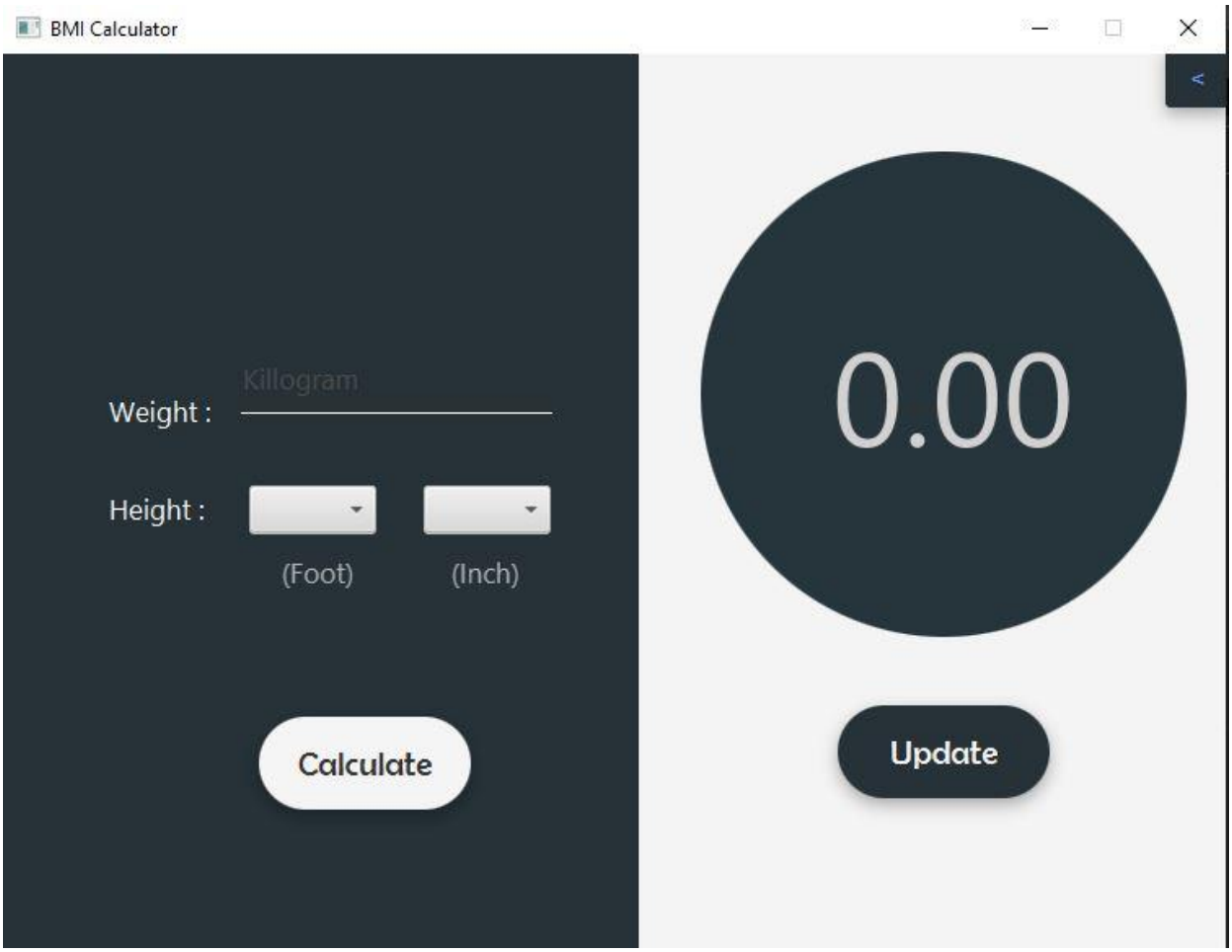


**Fig 1.8: BMI Calculator**

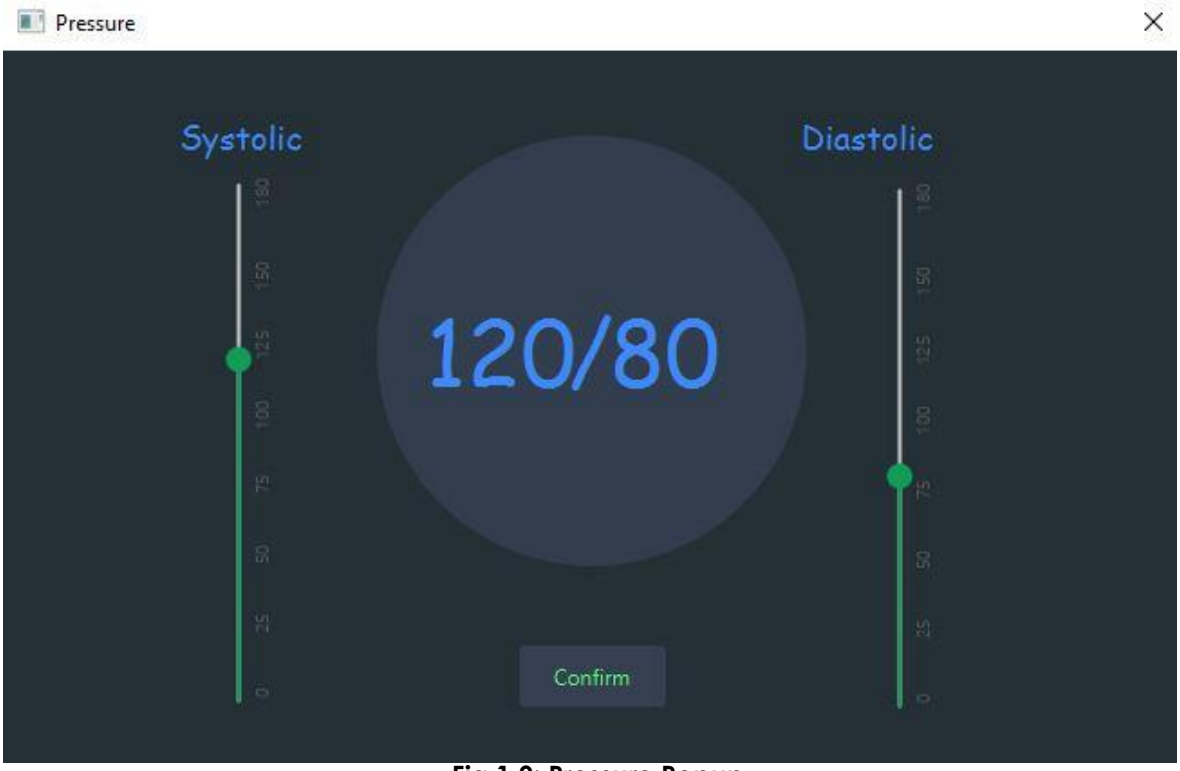


**Fig 1.9: Pressure Popup**

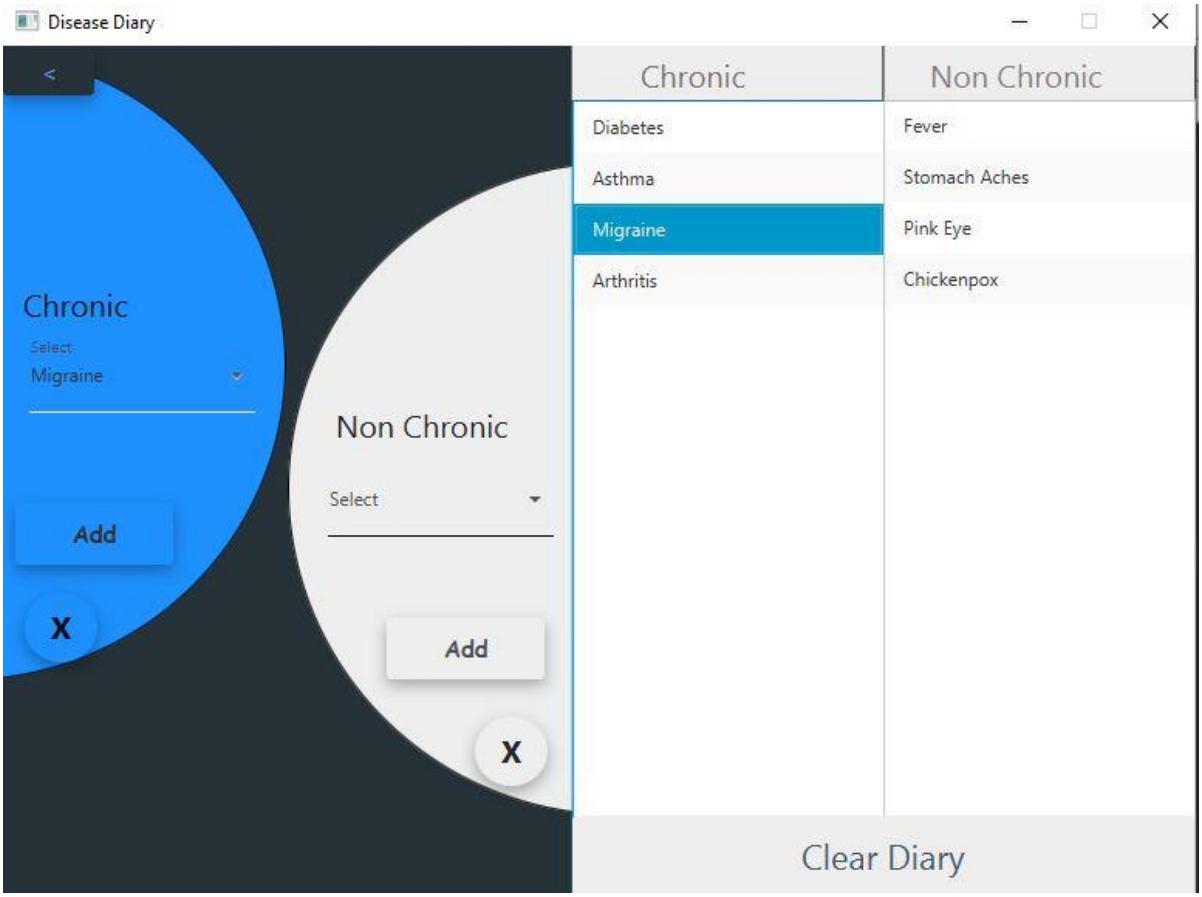


**Fig 1.10: Disease Diary**

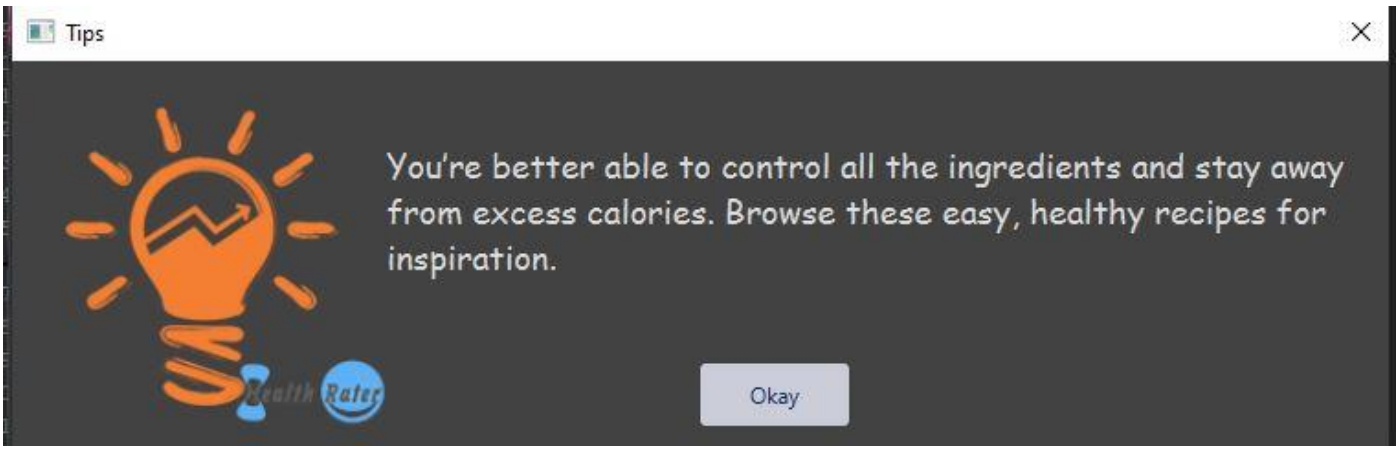


**Fig 1.11: Tips**

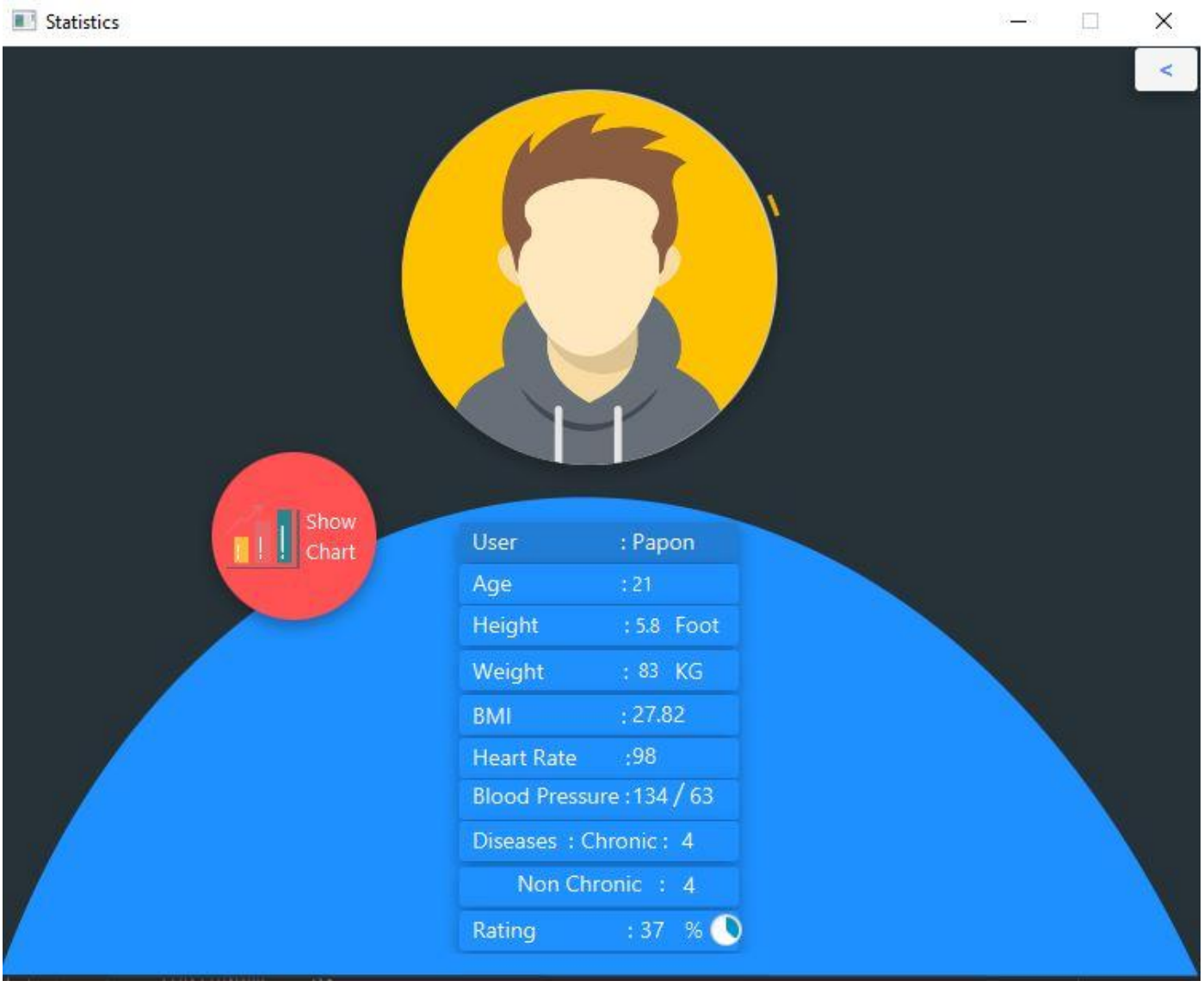


**Fig 1.12: Statistics Page**


**Fig 1.13: Bar chart screen**

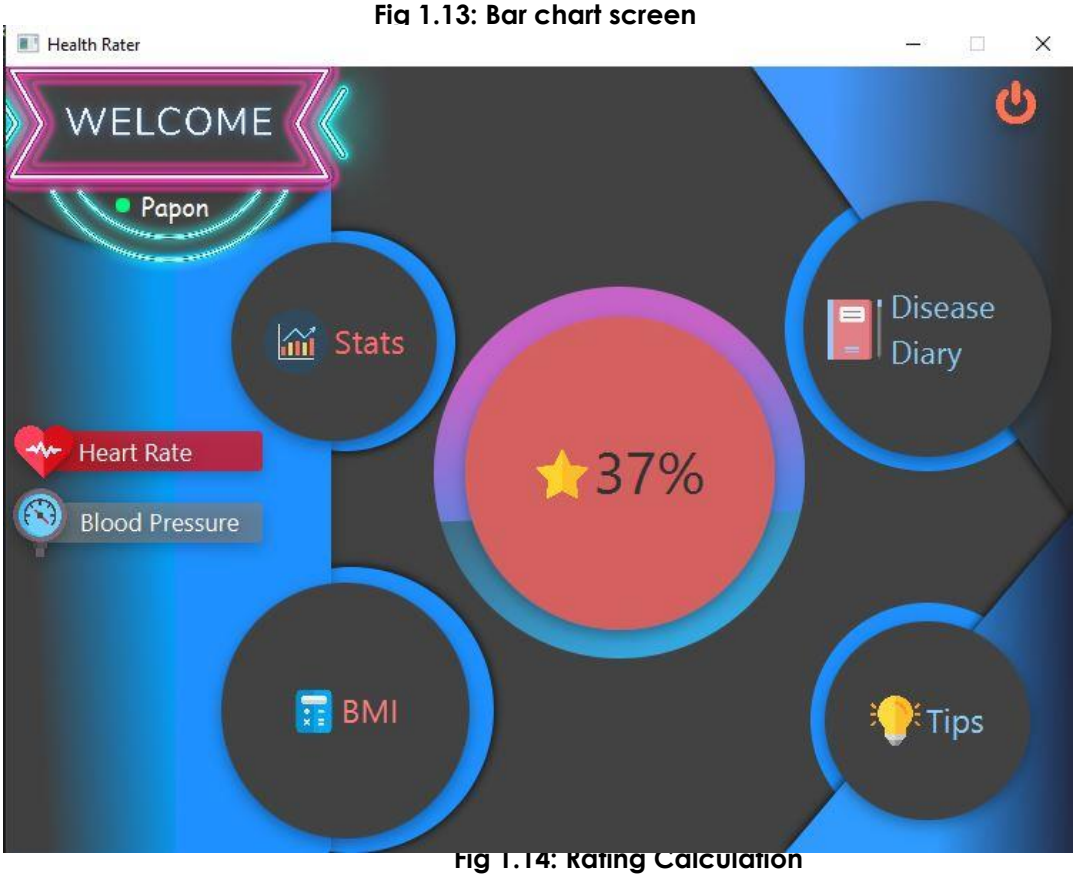


**Fig 1.14: Rating Calculation**

## 4. Target vs Actual Accomplishment:

My target for this project was to build a graphically interactive & easy to use desktop application that would help user to keep track of health . Another reason was to provide user with inspiration .I believe ,the rating system of the application will do the trick perfectly .When a user sees his rating less than others he is sure to work hard to improve the rating .The target was also to provide features like a Diary to note down diseases and BMI calculator was also accomplished . However, my intension was to use an API for providing tips. But ,as there wasn't any free API for my category ,I had to do the work using "Web Scrapping" with the help of Jsoup library .It worked pretty well for generating random suggestions ,so I wouldn't point this to be a failure . So, it can be said that all the target I had for this project ware mostly accomplished some way or another and this project was a success .

## 5. Risks and Issues:

The application I developed uses multiple database to store user's information .If the database somehow gets corrupted or doesn't get connected the application will fail to launch . Again , one of the feature of this application is to show health tips .The tips are directly scraped from a website .So, a strong internet connection will be must to use this application .Otherwise user won't be be able to access this feature which might definitely ruin the user experience .And again ,even a mare fever can be life-threatening .So , there isn't actually a perfect way to judge someone's health condition based on some information .

It might be a shortcoming of this application .However, I have tried my best to keep the issues to a minimum .Nothing is perfect in this world and this desktop application isn't any exception .

## 6. Discussion and Conclusion :

The application developed runs without any errors when conditions like internet connection are met .The application is working well .However , the making of this application was very tough . I was getting unexpected errors all the time while developing this program and it was hard to debug the bugs that it had .Some online resources were very helpful to find out the problems and cause of the errors . I faced issues connecting the database as well .I had to change IDE couple of times to finally work on Netbeans with JDK 8 .I was trying to used the latest JDK but JavaFx wasn't integrated to the latest ones and it was a difficult task to integrate JavaFx to newer JDK .After bunch of failed attempts I had to choose JDK 8 over the latest versions . Yet again scene builder is very RAM consuming .As a result it used to crash very often .

However , I was able to solve all those issues and now the application runs perfectly .The key points that will attract the user to this application are it's GUI and ease of use . While creating this application I surely gained a lot of knowledge about application development and working with GUI which will definitely help me in near future .This was ofcourse my first development project and happy to say that it ended up to be a success .

## 7 .References:


- https://www.youtube.com
- https://stackoverflow.com
- https://www.javatpoint.com/javafx-tutorial
- https://www.w3schools.com