ANDROIDAPPLICATION DEVELOPMENT…

A MINI PROJECT WORK - REPORT

Submitted by

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ABSTRACT

The body mass index (BMI) is a physical measurement used to assess an individual's **total amount of body fat**. The **BMI** was invented by Belgian polymath Adolphe Quetelet in the 1800s, and consequently is sometimes known as the **Quetelet index**. The BMI is calculated by dividing your weight in kilograms (kg) by your height in metres squared (m^2). It is expressed as kg/m^2. **Android** is one of the most advanced mobile operating system. Developing an application in android is the most challenging and the most complicated thing. This android application is developed using java as back end and xml as front end. Here combination of java class and xml is called as activity, each java class has corresponding activity. Calculate your BMI using the **bmi calculation** application ,with help of application people can able to know their BMI,so that they can beware of their health status.

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INTRODUCTION

Android application development for BMI calculation is quite different step for promotion. Just like a calculation app its performs arithmetic operations in development scenario. It's completely working in java as back end development. An Activity is responsible for all events. Activity consists of a class file and a xml coding. xml activity gives a layout of application according to their user specification.

BMI VALUES

The BMI scores give an indirect measure of body fat. Depending on the BMI value calculated you may be underweight, healthy weight, overweight or obese. The cut off values are as follows.

BMI	Classification
< 18.5	Underweight
18.5–24.9	Healthy weight
25.0–29.9	Overweight
30.0–34.9	Obese Class 1
35.0–39.9	Obese Class 2
> 40.0	Obese Class 3

BMI USEFUL

The BMI is a simple, inexpensive screening tool used to identify possible weight problems for both adults and children. A BMI measurement is useful to assess who needs further testing to identify health risks such as heart disease. Individuals at risk will need further assessment. Assessments may include skin fold thickness test, diet, physical activity level, family history and other appropriate health screenings.

COLOR

Color xml is the activity will explore your app more colorful and attractive . Its provide UI interface towards users .

The following code will call the explore class in the source file:

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="colorPrimary">#2196F3</color>
    <color name="colorPrimaryDark">#303F9F</color>
    <color name="colorAccent">#2196F3</color>
</resources>
```

MAIN ACTIVITY

Main activity is most important activity in an application which is the header of all activity in source. In this app it had specific code which will create a short cut for this app in home screen. Instead going inside the menu the user can access the app by clicking the short cut in the home screen.

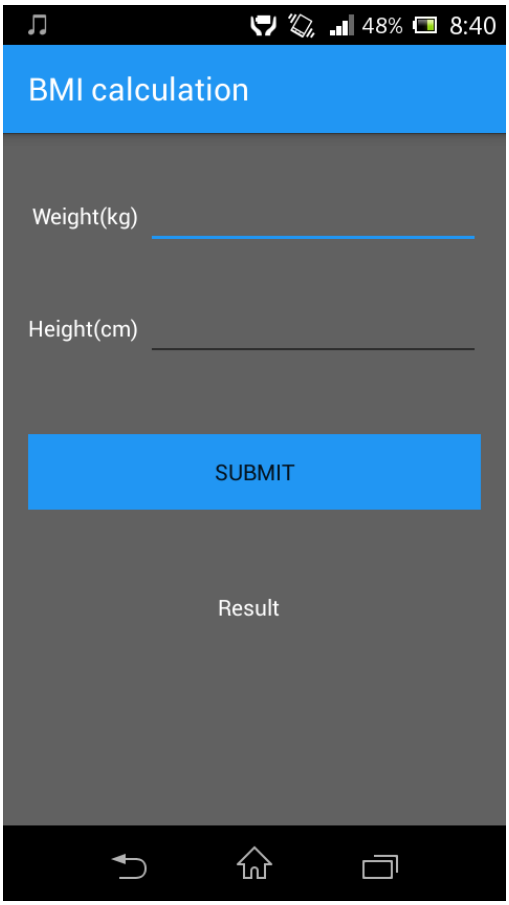
When main activity it will execute when you clicked application . Its provide a specific fields may contain weight, Height, bmi, result description for particular user calculation can be performed.

The following code for main activity in the source file:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/activity_main"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    android:background="#616161"
    tools:context="com.example.madhan.bmicalculation.MainActivity">


    <Button
        android:text="submit"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/bu"
        android:layout_below="@+id/heg"
        android:layout_alignParentStart="true"
        android:background="#2196F3"
        android:layout_marginTop="58dp" />


    <TextView
        android:text="Weight(kg)"
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
        android:id="@+id/textView2"
        android:layout_marginBottom="26dp"
        android:layout_above="@+id/heg"
        android:textColor="#FFFFFF"
        android:layout_alignEnd="@+id/textView" />

    <TextView
        android:text="Height(cm)"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="98dp"
        android:id="@+id/textView"
        android:layout_alignParentTop="true"
        android:textColor="#FFFFFF"
        android:layout_alignParentStart="true" />


    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:inputType="numberDecimal"
        android:ems="10"
        android:id="@+id/weg"
        android:layout_alignBaseline="@+id/textView2"
        android:layout_alignBottom="@+id/textView2"
        android:layout_alignParentEnd="true" />

    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:inputType="numberDecimal"
        android:ems="10"
        android:id="@+id/heg"
        android:layout_alignBaseline="@+id/textView"
        android:layout_alignBottom="@+id/textView"
        android:layout_alignParentEnd="true" />

    <TextView
        android:text="BMI"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/result"
        android:layout_above="@+id/ms"
        android:layout_alignStart="@+id/textView2"
        android:layout_marginStart="12dp"
        android:textColor="#FFFFFF"
        android:layout_marginBottom="89dp" />

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/ms"
        android:textSize="20sp"
        android:layout_marginStart="28dp"
        android:layout_alignParentBottom="true"
        android:textColor="#FFFFFF"
        android:layout_toEndOf="@+id/textView" />

</RelativeLayout>
```

and it will look like:


48% 8:40
BMI calculation
Weight(kg)
Height(cm)
SUBMIT
Result

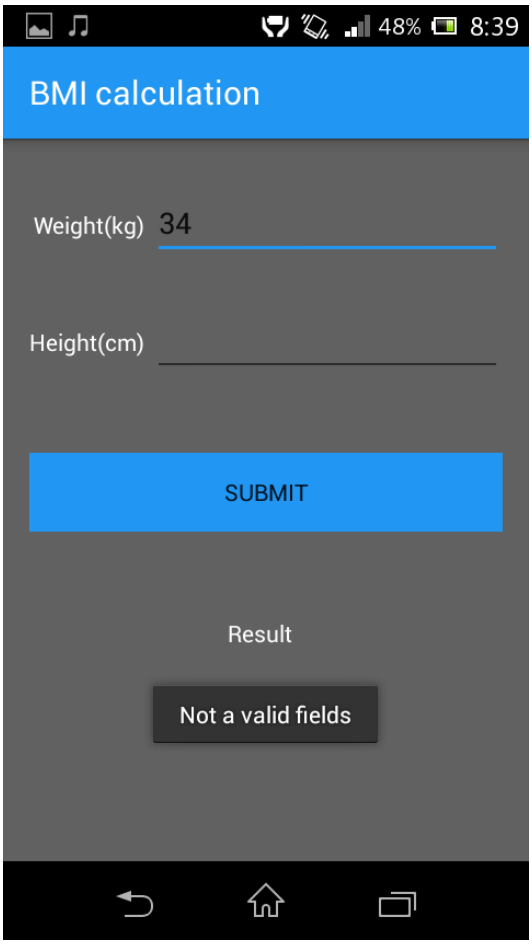
TOAST

Toast class is used to show notification for a particular interval of time. After sometime it disappears. It doesn't block the user interaction. Its may appears due to missing fields done by user.

The following code will call the explore class in the source file:

```
Toast.makeText(getApplicationContext(),"Not a valid fields",Toast.LENGTH_SHORT).show();
```

and it will look like:



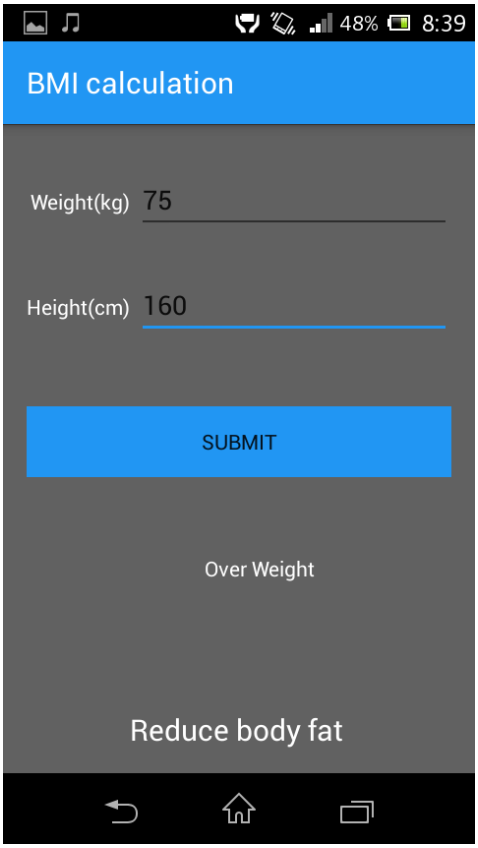
ACTIVITY CLASS

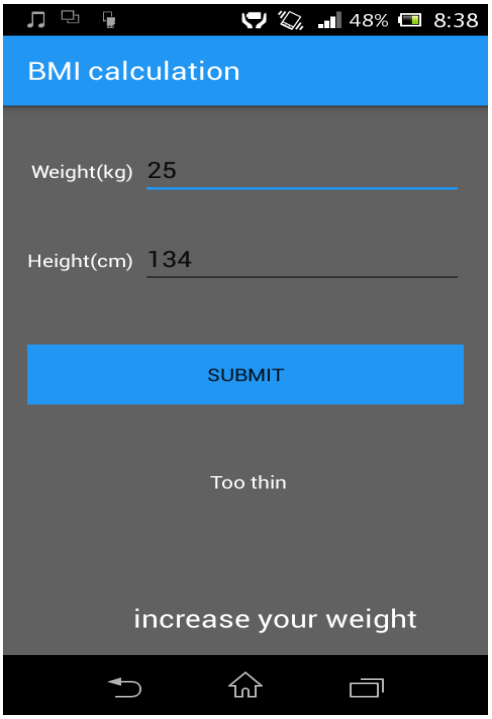
Activity class is main back bone for android application development. It has java as back end and xml as front end. An activity consist of class file it has basic java coding lines to call another java class or to call another activity or to add some features to layout.

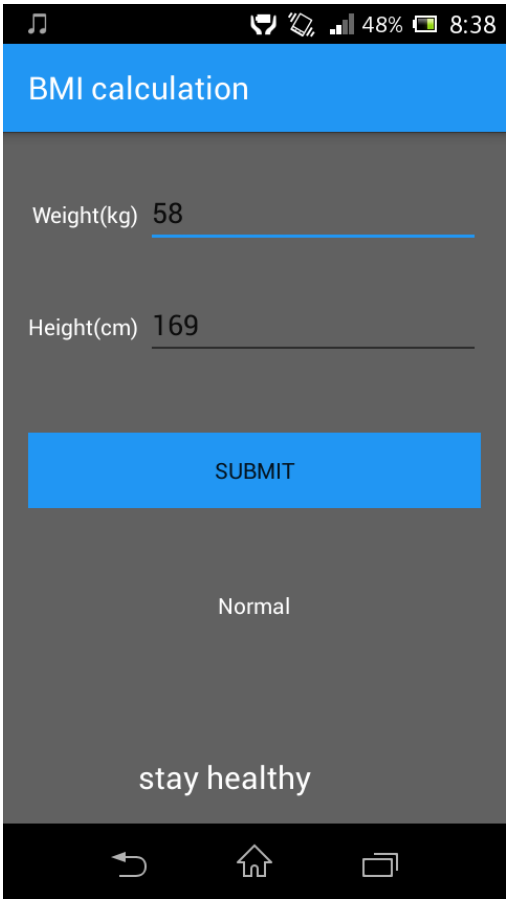
The following code will have the code to call another activity:

```
public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        final Button bu = (Button) findViewById(R.id.bu);
        final EditText weg =(EditText) findViewById(R.id.weg);
        final EditText heg =(EditText) findViewById(R.id.heg);
        final TextView result =(TextView) findViewById(R.id.result);
        final TextView ms =(TextView) findViewById(R.id.ms);
        bu.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                double w;
                double h;
                double bmi;
                String msg = "";

if(weg.getText().toString().equals("")||heg.getText().toString().equals(
"""))
                {
                    Toast.makeText(getApplicationContext(),"Not a valid
fields",Toast.LENGTH_SHORT).show();
                }
                else {
                    w = Double.parseDouble(weg.getText().toString());
                    h = Double.parseDouble(heg.getText().toString());
                    bmi = (h / 100 * (h / 100));
                    bmi = w / bmi;
                    result.setText(String.valueOf(bmi));
                    if (bmi < 18.5) {
                        msg = "Too thin";

                    } else if (bmi > 18.5 && bmi < 25) {
                        msg = "Normal";

                    } else if (bmi > 25) {
                        msg = "Over Weight";

                    }
                    ms.setText(msg);

                }
            }
        });
    }
}
```

and it will look like:




48% 8:38
BMI calculation
Weight(kg) 25
Height(cm) 134
SUBMIT
Too thin
increase your weight



RESULT

Thus the BMI calculation satisfies all the requirements of a application is provided the exceptional features for android users.

CONCLUSION

The advancement in the android platform paved the way for developers to creat a new application and modify the existing application. With the help of android more advanced and powerful application like *BMI calculation* are developed and yet to be developed everyday.