SRM VALLIAMMAI ENGINEERING COLLEGE

(An Autonomous Institution)

SRM Nagar, Kattankulathur, Chengalpattu Dt.-603203, Tamil Nadu.

DEPARTMENT OF INFORMATION TECHNOLOGY

ACADEMIC YEAR: 2022-2023

REGULATION 2019

REPORT

on

"1908708-INTERNSHIP"

at

DLK TECHNOLOGIES , T.NAGAR, CHENNAI.

SUBMITTED BY

142219205012-BALASUBRAMANIAN KALYAN

SEVENTH SEMESTER

2022- 2023 (Odd Semester)

BATCH: 2019-2023

SRM VALLIAMMAI ENGINEERING COLLEGE

(An Autonomous Institution)

SRM Nagar, Kattankulathur – 603 203

DEPARTMENT OF INFORMATION TECHNOLOGY

CERTIFICATE

This is to certify that Mr/Ms **BALASUBRAMANIAN KALYAN** (Reg. No. **142219205012)** VII Semester B. Tech (Information Technology) has completed the Internship in **'ANDROID APPLICATION DEVELOPMENT'** during the period **23rd June 2022 to 9th July 2022** at **DLK TECHNOLOGIES** and that has been submitted to Anna University.

HEAD OF THE DEPARTMENT **SIGNATURE**

DEPT. OF INFORMATION TECHNOLOGY **NAME :**

SRM VALLIAMMAI ENGINEERING COLLEGE **DESIGNATION :**

INDEX

ACKNOWLEDGEMENT

First, I would like to thank S. Jayalakshmi, the Vice President of **DLK TECHNOLOGIES** for giving me the opportunity to do an internship within the organization.

I also would like all the people that worked along with me **DLK TECHNOLOGIES** with their patience and openness they created an enjoyable working environment.

It is indeed with a great sense of pleasure and immense sense of gratitude that I acknowledge the help of these individuals.

I am highly indebted to Director **Dr. B. Chidhambararajan, M.E., Ph.D.** and Principal **Dr. M. Murugan, M.E., Ph.D.,** for the facilities provided to accomplish this internship.

I would like to thank my Head of the Department **Dr. A. R. Revathi, B.E., M.Tech., M.B.A., Ph.D., Associate Professor** for his constructive criticism throughout my internship.

I would like to thank **Dr.S.Narayanan, B.E., M.Tech., Ph.D., Assistant Professor (Sel.G),** internship coordinator Department of IT for his support and advices to get and complete internship in above said organization.

I am extremely great full to my department staff members and friends who helped me in successful completion of this internship.

BALASUBRAMANIAN KALYAN
(142219205012)

VISION OF THE DEPARTMENT

To become a model for higher learning through development to prepare self-disciplined, creative culturally competent and dynamic Information Technocrats while remaining sensitive to ethical, societal, and environmental issues.

MISSION OF THE DEPARTMENT

M1: To mould the students as innovative and high quality IT professionals to meet the global challenges and Entrepreneurs of international excellence as global leaders capable of contributing towards technological innovations learning process, participation citizenship in their neighbourhood and economic growth.

M2: To impart value-based IT education to the students and enrich their knowledge and to achieve effective interaction between industry and institution for mutual benefits.

INTRODUCTION

- The Android Application Development internship offers practical work experience and an introduction to creating and improving App-based systems.
- Android operating system is the largest installed base among various mobile platforms across the globe. Hundreds of millions of mobile devices are powered by Android in more than 190 countries of the world.
- This internship will involve challenging opportunities, real world projects, and regular interaction with staff.
- Android supports different types of connectivity for GSM, CDMA, Wi-Fi, Bluetooth, etc. for telephonic conversation or data transfer.
- It supports multimedia hardware control to perform playback or recording using a camera and microphone.
- Android has an integrated open-source WebKit layout-based web browser to support User Interfaces like HTML5, and CSS3.
- Android supports multi-tasking means we can run multiple applications at a time and can switch between them.
- It's a fantastic opportunity to gain hands-on experience in the app development field with an award-winning innovation team.

Android Development Projects may include:

- Write custom HTML, and JAVA for android application development.
- Design, recommend and pitch improvements to new and existing features.
- Assist in troubleshooting issues on App-based systems.
- Update and edit App content, posts, and pages.
- Provide technical support related to App-based systems to internal teams.
- Test and give feedback on new and existing technologies.
- Create prototypes and experiment with new technologies and features as assigned.

TECHNOLOGIES LEARNT

JAVA:

Java is one of the most popular and widely used programming languages. Java has been one of the most popular programming languages for many years. Java is Object Oriented. However, it is not considered as pure object-oriented as it provides support for primitive data types (like int, char, etc). The Java codes are first compiled into byte code (machine-independent code). Then the byte code runs on Java Virtual Machine (JVM) regardless of the underlying architecture. Java syntax is like C/C++. But Java does not provide low-level programming functionalities like pointers. Also, Java codes are always written in the form of classes and objects. Java is used in all kinds of applications like Mobile Applications (Android is Java-based), desktop applications, web applications, client-server applications, enterprise applications, and many more.

XML:

Android layouts are written in (eXtensible Markup Language), and that refers to the (XML), and layout defines the structure for a user interface in your app. Each layout file must contain one root element (Root Views).

EX:

- Linear Layout
- Frame Layout
- Relative Layout
- Constraint Layouts

UI view consist of a view represents an object built-in View class, and it's a component of the user interface (UI). A ViewGroup is a subclass of View, and it's is the base class for layouts and views containers.

Common ViewGroups:

- List View displays a list of scrollable items.
- Grid View displays items in a two-dimensional, scrollable grid.
- Table Layout groups views into rows and columns.
- FrameLayout groups designed to block out an area on the screen to display a single item.

ANDROID STUDIO:

- A flexible Gradle build system, easy to manage all the dependencies in a single place.
- It allows you to run and test applications if one doesn't have an Android smartphone. Because of its feature-rich emulator, it can run one or more emulators at a time to test client-server applications. And it also allows you to run and test physical Android Smartphones.
- It provides a unified environment so that applications can be developed for all types of Android devices.
- Intelligent code completion feature.
- Predefined code templates.
- Git integration makes developers maintain repositories and helps to build common app features and import sample code.
- C++ and Native Development Kit (NDK) support.

DETAILS OF THE PROJECT WORK CARRIED OUT

JAVA is the core language of this project as it gives the ability to process the information that are given as input. Here java is used in three files namely **MainActivity.java**, **bmiactivity.java** and **splash.java.**

MainActivity.java

This activity consists of the main page of the application and, we will be getting the inputs from the user to calculate the BMI of the user. This main activity page consists of many Relative layouts such as Male, Female, Height, Age, Weight. **RelativeLayout** is a view group that displays child views in relative positions. The position of each view can be specified as relative to sibling elements (such as to the left-of or below another view) or in positions relative to the parent RelativeLayout area (such as aligned to the bottom, left or centre).

bmiactivity.java

This activity consists of the output page of the user. Here it calculates the users BMI based on the user's input. The output of the BMI is categorized into seven types of classes that is Severe Thinness, Moderate Thinness, Mild Thinness, Normal, Overweight, Obese Class I, Obese Class II. Each BMI category has certain number value that determines the user's category, and the number value is what gets calculated in this activity and gets shown as output in screen. Body Mass Index is a simple calculation using a person's height and weight. The formula is **BMI = kg/m2** where kg is a person's weight in kilograms and m2 is their height in metres squared.

splash.java

This activity is the main page of the application. Splash activity indicates the splash screen in which I can customize my front page of the android application and can also determine the value of seconds that the splash screen is shown in the screen. We can determine the seconds of the splash screen to be active with milliseconds for example (delaymilli; 3000).

XML:

Different XML files serve different purposes in Android Studio. The list of various XML files is:

1. Layout XML files

The Layout XML files are responsible for the actual User Interface of the application. It holds all the widgets or views like Buttons, TextViews, EditTexts, etc. which are defined under the ViewGroups.

2. AndroidManifest.xml file

This file describes the essential information about the application's, like the application's package names which matches code's namespaces, a component of the application like activities, services, broadcast receivers, and content providers. Permission required by the user for the application features also mentioned in this XML file.

3. strings.xml file

This file contains texts for all the TextViews widgets. This enables reusability of code and helps in the localization of the application with different languages. The strings defined in these files can be used to replace all hardcoded text in the entire application.

4. themes.xml file

This file defines the base theme and customized themes of the application. It also used to define styles and looks for the UI (User Interface) of the application. By defining styles, we can customize how the views or widgets look on the User Interface.

5. Drawable XML files

These are the XML files that provide graphics to elements like custom background for the buttons and its ripple effects, also various gradients can be created. This also holds the vector graphics like icons. Using these files custom layouts can be constructed for EditTexts.

MainActivity.java

```
package com.example.bmicalculator;

import androidx.appcompat.app.AppCompatActivity;

import androidx.core.content.ContextCompat;

import android.annotation.SuppressLint;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.ImageView;

import android.widget.RelativeLayout;

import android.widget.SeekBar;
```

```
import android.widget.TextView;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

TextView mcurrentheight;

TextView mcurrentweight,mcurrentage;

ImageView mincrementage,mdecrementage,mincrementweight,mdecrementweight;

SeekBar mseekbarforheight;

Button mcalculatebmi;

RelativeLayout mmale,mfemale;

int intweight=55;

int intage=22;

int currentprogress;

String mintprogress="170";

String typerofuser="0";

String weight2="55";

String age2="22";

@SuppressLint("ResourceAsColor")

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);
```

```
setContentView(R.layout.activity_main);

getSupportActionBar().hide();

mcurrentage=findViewById(R.id.currentage);

mcurrentweight=findViewById(R.id.currentweight);

mcurrentheight=findViewById(R.id.currentheight);

mincrementage=findViewById(R.id.incrementage);

mdecrementage=findViewById(R.id.decrementage);

mincrementweight=findViewById(R.id.incremetweight);

mdecrementweight=findViewById(R.id.decrementweight);

mcalculatebmi=findViewById(R.id.calculatebmi);

mseekbarforheight=findViewById(R.id.seekbarforheight);

mmale=findViewById(R.id.male);

mfemale=findViewById(R.id.female);

mmale.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v)

{mmale.setBackground(ContextCompat.getDrawable(getApplicationContext(),R.drawable.m

alefemalefocus));

mfemale.setBackground(ContextCompat.getDrawable(getApplicationContext(),R.drawable.

malefemalenotfocus));
```

```
typerofuser="Male";
}
});
mfemale.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
mfemale.setBackground(ContextCompat.getDrawable(getApplicationContext(),R.drawable.
malefemalefocus));
mmale.setBackground(ContextCompat.getDrawable(getApplicationContext(),R.drawable.ma
lefemalenotfocus));
typerofuser="Female";
}
});
mseekbarforheight.setMax(300);
mseekbarforheight.setProgress(170);
mseekbarforheight.setOnSeekBarChangeListener(new SeekBar.OnSeekBarChangeListener()
{
@Override
public void onProgressChanged(SeekBar seekBar, int progress, boolean fromUser) {
currentprogress=progress;
mintprogress=String.valueOf(currentprogress);
```

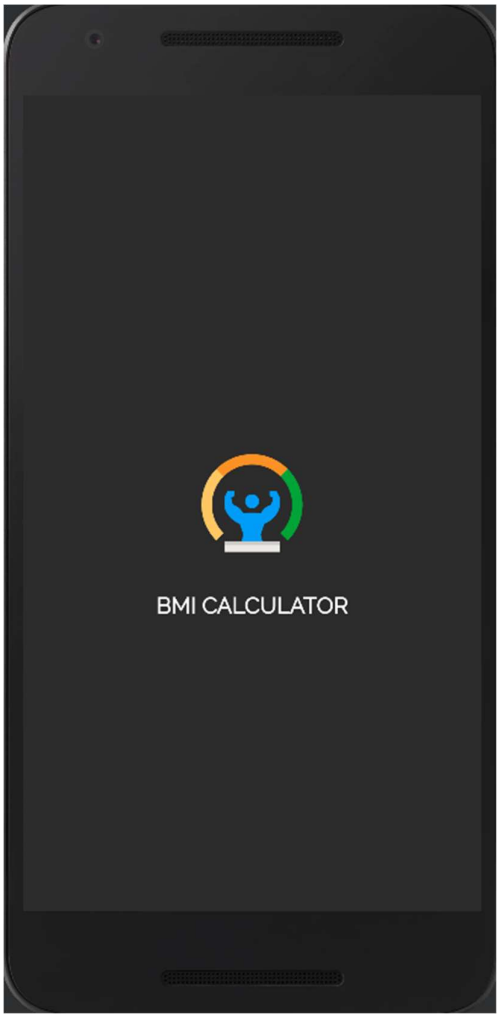
```
mcurrentheight.setText(mintprogress);
}
@Override
public void onStartTrackingTouch(SeekBar seekBar) {
}
@Override
public void onStopTrackingTouch(SeekBar seekBar) {
}
});
mincrementweight.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
intweight=intweight+1;
weight2=String.valueOf(intweight);
mcurrentweight.setText(weight2);
}
});
mincrementage.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
```

```
intage=intage+1;
age2=String.valueOf(intage);
mcurrentage.setText(age2);
}
});
mdecrementage.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
intage=intage-1;
age2=String.valueOf(intage);
mcurrentage.setText(age2);
}
});
mdecrementweight.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
intweight=intweight-1;
weight2=String.valueOf(intweight);
mcurrentweight.setText(weight2);
}
```

```
});

mcalculatebmi.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

if(typerofuser.equals("0"))

{

Toast.makeText(getApplicationContext(),"Select Your

Gender",Toast.LENGTH_SHORT).show();

}

else if(mintprogress.equals("0"))

{

Toast.makeText(getApplicationContext(),"Select Your

Height",Toast.LENGTH_SHORT).show();

}

else if(intage==0 || intage<0)

{

Toast.makeText(getApplicationContext(),"Age is

Incorrect",Toast.LENGTH_SHORT).show();

}

else if(intweight==0|| intweight<0)
```

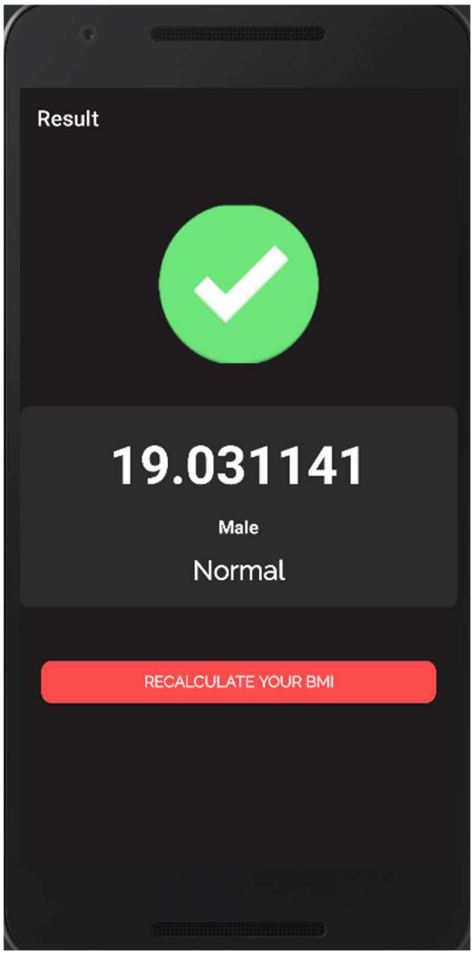
```
{
Toast.makeText(getApplicationContext(),"Weight Is
Incorrect",Toast.LENGTH_SHORT).show();
}
else {
Intent intent = new Intent(MainActivity.this, bmiactivity.class);
intent.putExtra("gender", typerofuser);
intent.putExtra("height", mintprogress);
intent.putExtra("weight", weight2);
intent.putExtra("age", age2);
startActivity(intent);
}
}
});
}
}
```

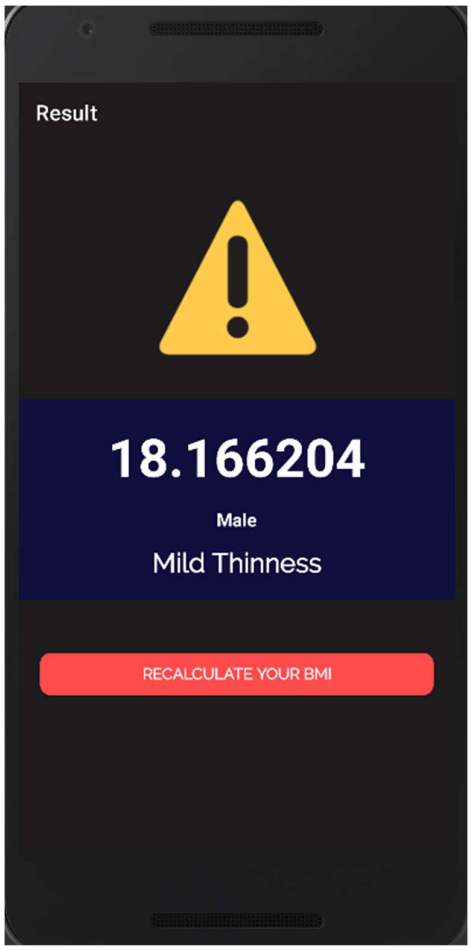
SAMPLE IMAGES:

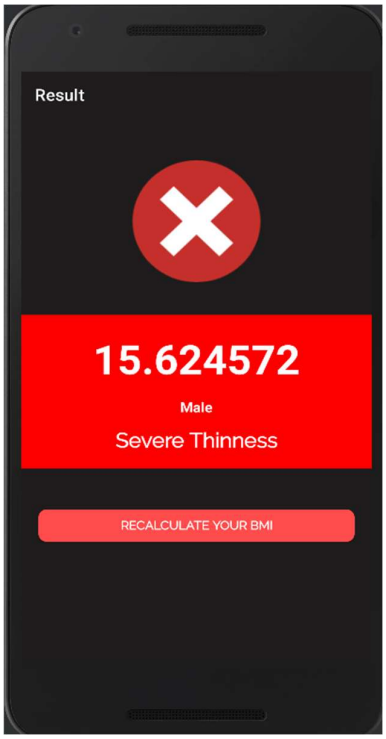


Splash screen

Main Page


Result
19.031141
Male
Normal
RECALCULATE YOUR BMI


Result
18.166204
Male
Mild Thinness
RECALCULATE YOUR BMI


Result
15.624572
Male
Severe Thinness
RECALCULATE YOUR BMI

SKILLS LEARNT AND EXPERIENCE GAINED

XML skills:

XML was created as a standard way to encode data for internet-based mobile applications. It is a structured markup language, sharing many features in common with HTML – you may recognize the angled brackets, the <opening> and </closing> tag types, and the deep nesting of elements.

In short, it allows information to be passed between devices in a way that can be understood consistently. In the Android world, developers use XML to create layouts that serve as the foundational UI definition for Android applications.

Developers can also write Java code that modifies layout elements once the Android application is already running, in the same way that web developers use Javascript to modify the elements in their website at runtime. But mastering the basics of XML is an important skill for Android developers.

ANDROID SDK:

SDK stands for Software Development Kit, which, though it may conjure up images of a briefcase full of spy tools, is actually just a fancy name for a set of pre-packaged code. The Android SDKs are modules of Java code that give developers access to mobile device functions like the camera and accelerometer.

One key component of the Android SDK is a library called Gradle. Let us say that you want to integrate a social media platform like Facebook with your app. You would download a code library (or SDK) from Facebook, and then tell Gradle that you are using it so that when your application compiles, your code stays well organized. New Android developers will spend

much of their time discovering how the various SDKs for Android can be pieced together in different ways to put together an Android application.

BACK-END BASICS:

You must also understand the back-end basics of app development. Since you will be collaborating with back-end developers, it is important for you to know the fundamentals. For instance, you should know the basics of the working of servers, databases, cybersecurity, and SQL.

ANDROID STUDIO:

The integrated development environment (IDE) of choice for Android developers is called Android Studio. Android Studio is built on top of the well-respected IntelliJ IDE, and it comes with great out-of-the-box support for many of the most common Android SDKs.

Android Studio also features many of the capabilities developers expect of a full-featured IDE. Code completion helps make auto-complete suggestions as you type. Code debuggers let you step through your code to identify the source of errors.

Interpersonal skills:

Having good interpersonal skills is important to be successful as a android developer, as this role requires interacting with clients and colleagues regularly. You should have positive body language and a strong work ethic. If you can get along with people well, you will communicate well with your colleagues and clients and perform well in your role.

ANDROID INTERACTIVITY:

User interaction with Android apps should be considered with utmost priority. Responding to events by using callbacks, implementing appropriate gestures such as drag and

drop, providing right keyboard for user input and using pan and zoom in the right place plays a crucial role in providing the seamless user experience. These are small but very useful in improving user interaction. Above all, these user interactivity takes place in an Android component known as Activity.

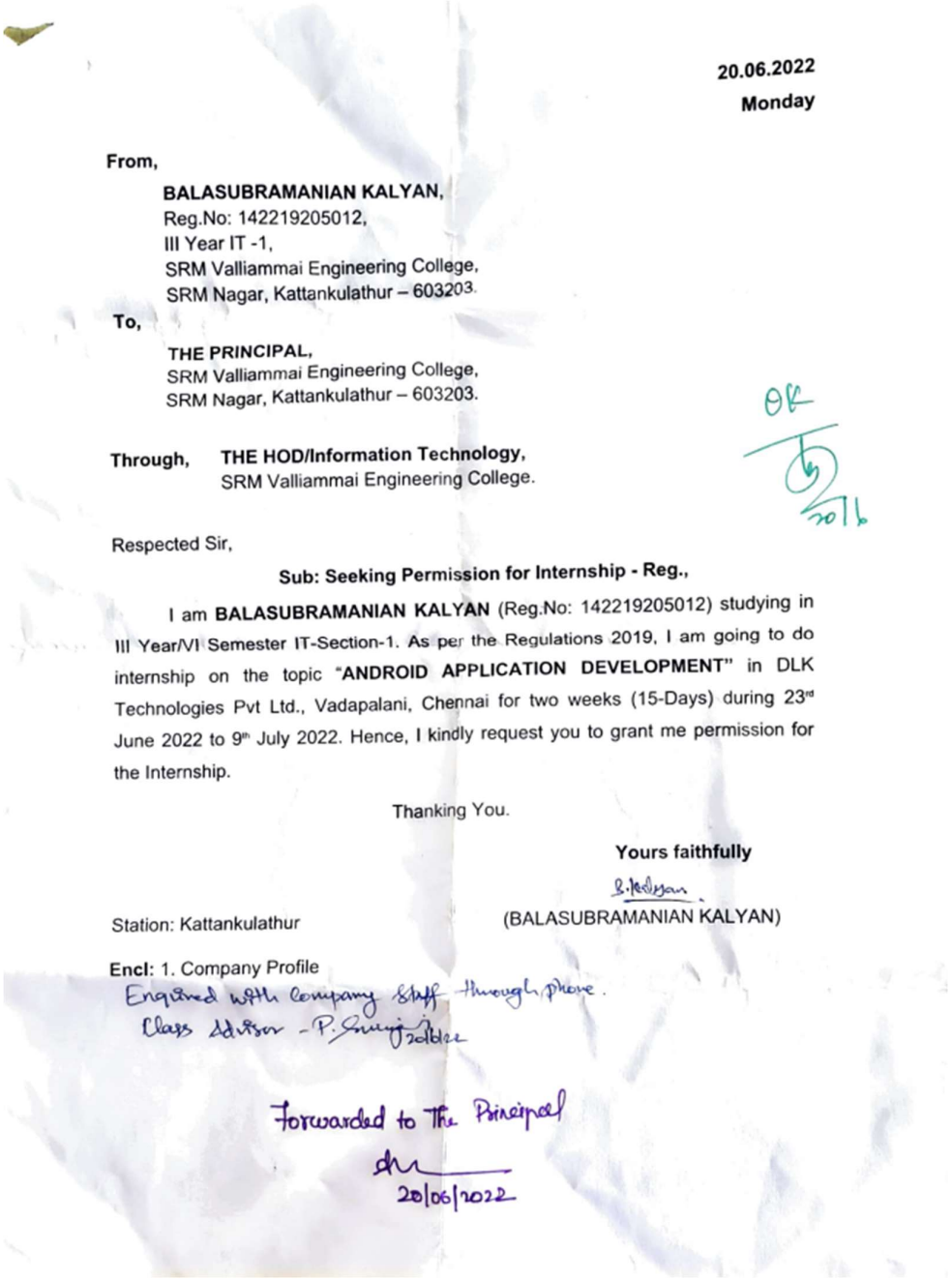
An Activity is a single, focused thing that the user can do. Almost all Activities interact with the user, so the Activity class takes care of creating a window for you in which you can place your user interface.

CONCLUSION

Body Mass Index is the deciding factor whether a person is healthy, underweight, overweight, or obese according to the age, weight, and height. You should get your BMI calculated with an accurate BMI calculator. It helps in finding out how healthy you are. 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. The Body Mass Index (BMI) Calculator App is a software programme that eliminates the need for more manual hours to calculate and locate the BMI for a specific person with a single click. 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. It has a user-friendly graphical user interface that outperforms the current system. If necessary, the System has enough flexibility to be modified in the future.

INTERNSHIP CERTIFICATE

PERMISSION LETTER



20.06.2022
Monday

From,

BALASUBRAMANIAN KALYAN,
Reg.No: 142219205012,
III Year IT -1,
SRM Valliammai Engineering College,
SRM Nagar, Kattankulathur – 603203.

To,

THE PRINCIPAL,
SRM Valliammai Engineering College,
SRM Nagar, Kattankulathur – 603203.

OK
20/6

Through, **THE HOD/Information Technology,**
SRM Valliammai Engineering College.

Respected Sir,

Sub: Seeking Permission for Internship - Reg.,

I am **BALASUBRAMANIAN KALYAN** (Reg.No: 142219205012) studying in III Year/VI Semester IT-Section-1. As per the Regulations 2019, I am going to do internship on the topic "**ANDROID APPLICATION DEVELOPMENT**" in DLK Technologies Pvt Ltd., Vadapalani, Chennai for two weeks (15-Days) during 23rd June 2022 to 9th July 2022. Hence, I kindly request you to grant me permission for the Internship.

Thanking You.

Yours faithfully

B.Kalyan

Station: Kattankulathur (BALASUBRAMANIAN KALYAN)

Encl: 1. Company Profile

Enquired with Company Staff through phone.
Class Advisor - P. Sangeetha 20/6/22

Forwarded to The Principal
20/06/2022

COMPANY PROFILE

SCHEDULE COPY

DATE	DAY	NAME OF THE TOPIC COMPLETED
23/06/22	1	Introduction to company.
24/06/22	2	Introduction to Recruitment life cycle.
25/06/22	3	Explanation of sourcing and selection process phases in Recruitment life cycle.
27/06/22	4	Explanation of Languages needed for frontend in App development.
28/06/22	5	Basics of Android studio and its components.
29/06/22	6	Developing the architecture of the app
30/06/22	7	Explanation of how to execute front and back end source codes.
01/07/22	8	Coding the layouts and main page of the app.
02/07/22	9	Coding the BMI activity and formula.
04/07/22	10	Coding the BMI layout and the output page.
05/07/22	11	Coding for splash screen in back end and front end.
06/07/22	12	Setting the app icon with foreground and background of the icon.
07/07/22	13	Report the defects and final modifications.
08/07/22	14	Project distribution.
09/07/22	15	Certification.