GRAPHIC ERA HILL UNIVERSITY

Department of Computer Science and Engineering

SESSION = 2022 – 2023

MINI PROJECT REPORT ON

NATIVE ANDROID APPLICATION

SUBMITTED BY-----

AYUSH KHANDURI

UNI. ROLL NO. = 2118405

SUBMITTED TO-----

DR. GUNJAN CHABRA

DECLARATION

I, Ayush Khanduri student of B-tech(CSE), Semester 4th,
Department of Computer Science and Engineering, Graphic Era Hill University, Dehradun, declare that the technical project work entitled "Native Android Application" has been carried out by me and submitted
in partial fulfilment of the course requirements for the award of degree in B-Tech of Graphic Era Hill University during the academic year 2022-2023.
The matter embodied in this synopsis has not been submitted to any other university or institution for the award of any other degree or diploma.

 Date: 15/07/23

ACKNOWLEDGEMENT

I want to express my sincere thanks to the institution for their excellent guidance and support in seeing my thesis through to completion. I would also like to thank my family, teachers and friends for their support in the duration of the course. I was able

gain a lot of knowledge doing the training as well as while creating the projects.

I also want to express my gratitude to our instructor forgiving me the chance to work on a project centered on the topic .

Without their assistance and suggestions, this project could not have been completed.

AYUSH KHANDURI

2118405

CONTENT

<u>INTRODUCTION</u>

This report provides full information about the project .It contain all the details about different technologies, tools, data, tricks which is used in making of this project.

It also contains different set of codes , pictures , important files which used in project so that it gives clear understanding about to project .

This project is based on NATIVE ANDROID APPLICATION DEVELOPMENT in which we created a application name as "My_BookMark".

Android development refers to the process of creating applications for devices that run on the Android operating system. Android is one of the most widely used mobile operating systems, powering a large number of smartphones, tablets, smartwatches, and other devices.

Android development involves writing code using the Android Software Development Kit (SDK), which provides the necessary tools, libraries, and APIs (Application Programming Interfaces) to build Android applications. The primary programming language for Android development is Java, although Kotlin has gained popularity as an alternative language.

ABOUT THE PROJECT

This project is based on Native Android Application Development . In this project I created a Application which is used to store all out web bookmarks at a single place.

In this application we can add any number of websites as a bookmark and at a single click we reach to that site. This saves out time to find important saved links and make things more manageable.
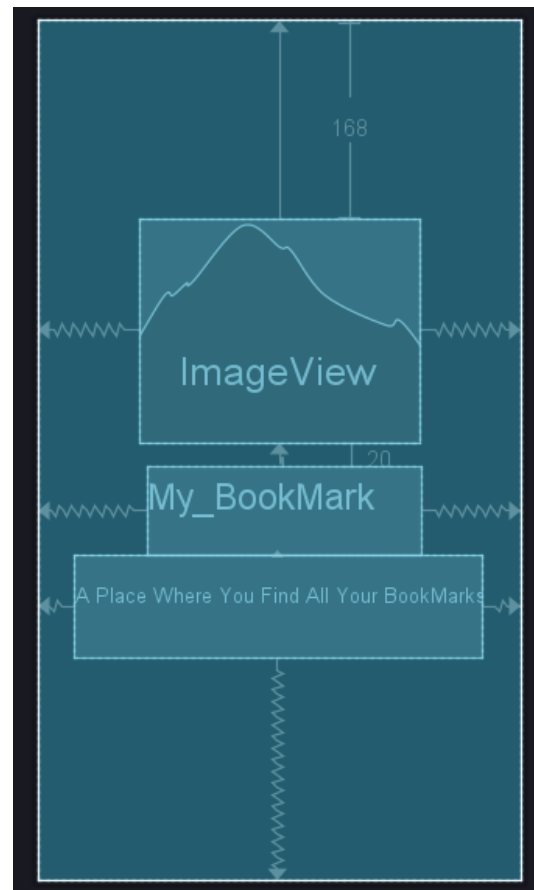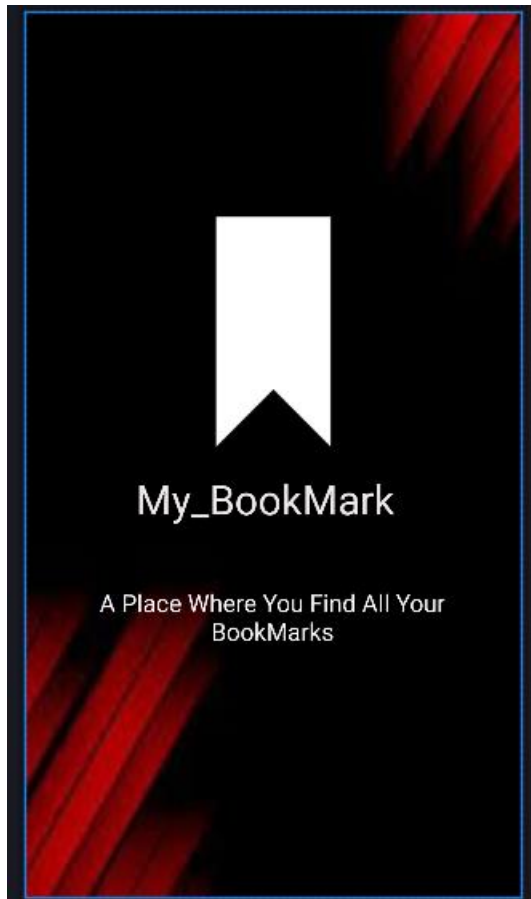
To Add a new bookmark it take 2 inputs first is tiltle of bookmark and another is URL .

TOOLS AND TECHNOLOGIES USED IN PROJECT

- JAVA PROGRAMMING LANGUAGE
- XML(Extensible Markup Language)
- ANDROID STUDIO
- DATABASE

UI OF APLICATION

1 FIRST ACTIVITY (SPLASH SCREEN)

XML CODE

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:background="@drawable/bg1"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
```
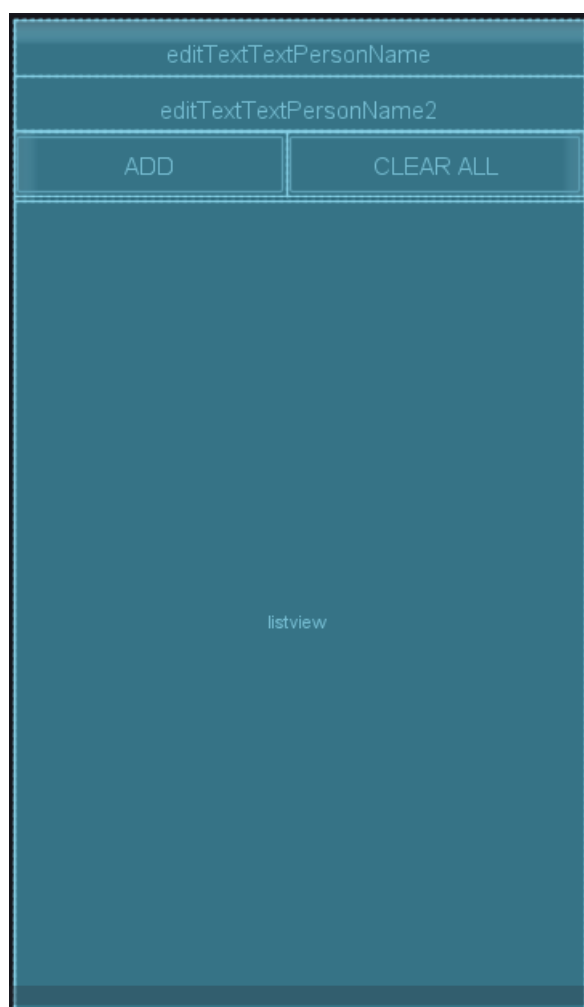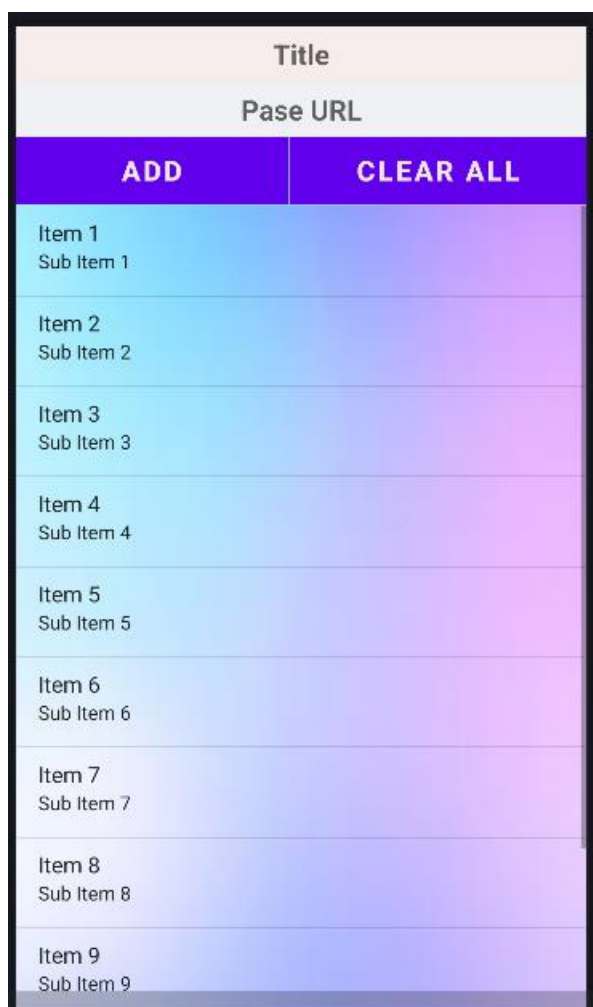
```xml
    tools:context=".IntroScreen">
    <ImageView
        android:id="@+id/imageView3"
        android:layout_width="239dp"
        android:layout_height="191dp"
        android:layout_marginTop="168dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:srcCompat="@drawable/img_3" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="234dp"
        android:layout_height="76dp"
        android:layout_marginTop="20dp"
        android:text="My_BookMark"
        android:textColor="#EDEAEA"
        android:textSize="34sp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.519"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/imageView3" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="346dp"
        android:layout_height="88dp"
        android:gravity="center"
        android:text="A Place Where You Find All Your BookMarks"
        android:textColor="#FBFAFA"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.492"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView"
        app:layout_constraintVertical_bias="0.0" />
</androidx.constraintlayout
```

2. **SECOND ACTIVITY(MAIN ACTIVITY)**

| Title |
| Pase URL |

| **ADD** | **CLEAR ALL** |

Item 1
Sub Item 1

Item 2
Sub Item 2

Item 3
Sub Item 3

Item 4
Sub Item 4

Item 5
Sub Item 5

Item 6
Sub Item 6

Item 7
Sub Item 7

Item 8
Sub Item 8

Item 9
Sub Item 9

editTextTextPersonName

editTextTextPersonName2

ADD   CLEAR ALL

listview

XML CODE

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@drawable/img"
    tools:context=".MainActivity">
```

```xml
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:gravity="center"
        android:orientation="vertical">

        <EditText
            android:id="@+id/editTextTextPersonName"
            android:layout_width="match_parent"
            android:layout_height="40dp"
            android:background="#F6EDED"
            android:ems="10"
            android:gravity="center"
            android:hint="Title"
            android:inputType="textPersonName"
            android:textAllCaps="true"
            android:textColor="#141010"
            android:textColorLink="#A82D2D"
            android:textSize="20sp"
            android:textStyle="bold" />

        <EditText
            android:id="@+id/editTextTextPersonName2"
            android:layout_width="match_parent"
            android:layout_height="40dp"
            android:background="#EFF1F4"
            android:ems="10"
            android:gravity="center"
            android:hint="Pase URL"
            android:inputType="textPersonName"
            android:textAllCaps="true"
            android:textColor="#141010"
            android:textColorLink="#A82D2D"
            android:textSize="20sp"
```

```xml
            android:textStyle="bold" />

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="50dp"
        android:orientation="horizontal">

    <Button
        android:id="@+id/button"
        android:layout_width="196dp"
        android:layout_height="wrap_content"
        android:background="#82B1FF"
        android:gravity="center"
        android:text="ADD"
        android:textAllCaps="true"
        android:textColor="#EFEAEA"
        android:textColorLink="#A82D2D"
        android:textSize="20sp"
        android:textStyle="bold" />

     <Button
        android:id="@+id/button2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginStart="1dp"
        android:layout_weight="10"
        android:background="#82B1FF"
        android:gravity="center"
        android:text="CLEAR ALL"
        android:textAllCaps="true"
        android:textColor="#EFEAEA"
        android:textColorLink="#A82D2D"
        android:textSize="20sp"
        android:textStyle="bold" />
    </LinearLayout>

    <ListView
        android:id="@+id/listview"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
```

```xml
            android:background="@drawable/img"
            android:textFilterEnabled="false"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent" />

    </LinearLayout>

  </LinearLayout>
</androidx.constraintlayout.widget.ConstraintLayout>
```

JAVA CODE USED IN PROJECT.

1. FOR FIRST ACTIVITY(SPLASH SCREEN)

```java
package com.example.my_bookmark;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.os.Handler;

public class IntroScreen extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_intro_screen);
        new Handler().postDelayed(new Runnable() {
            @Override
            public void run() {
                Intent intent=new Intent(IntroScreen.this,MainActivity.class);
                startActivity(intent);
                finish();

            }
        },3000);

    }
}
```

2. FOR SECOND ACTIVITY (Main Activity)

This file contains all the important functioning of application for ex. Click events how data will added to the list or how to reach the website etc.

```java
package com.example.my_bookmark;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Context;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.os.Handler;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.EditText;
import android.widget.ListView;
import android.widget.Toast;
import org.intellij.lang.annotations.JdkConstants;
import java.util.ArrayList;
public class MainActivity extends AppCompatActivity {
  ArrayList<String> title= new ArrayList<>();
  ArrayList<String> url=new ArrayList<>();
  ArrayAdapter <String>ad;
  EditText t1,t2;
  Button b1,b2;
  ListView list;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      t1=findViewById(R.id.editTextTextPersonName);
      t2=findViewById(R.id.editTextTextPersonName2);
      b1=findViewById(R.id.button);
      b2=findViewById(R.id.button2);
      list=findViewById(R.id.listview);
      title = mydata.readTitle(this);
      url = mydata.readURL(this);
      ad=new ArrayAdapter<>(getApplicationContext(),
android.R.layout.simple_list_item_1,title);
      list.setAdapter(ad);
      b1.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
```

```java
                    String titl=t1.getText().toString();
                    String ur=t2.getText().toString();
                    if(!titl.isEmpty() && !ur.isEmpty()) {
                    title.add(titl);
                    url.add(ur);
                    }
                    t1.setText("");
                    t2.setText("");
                    mydata.writeData(title,url,getApplicationContext());
                    ad.notifyDataSetChanged();
                }
            });
            b2.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View view) {
                    title.clear();
                    url.clear();
                    ad.notifyDataSetChanged();
                }
            });

            list.setOnItemClickListener(new AdapterView.OnItemClickListener() {
                @Override
                public void onItemClick(AdapterView<?> adapterView, View view, int i, long
    l) {
                    String link=url.get(i);
                    Toast.makeText(MainActivity.this, ""+link, Toast.LENGTH_SHORT).show();
                    Uri webpage = Uri.parse(link);
                    Intent intent = new Intent(Intent.ACTION_VIEW, webpage);
                    if (intent.resolveActivity(getPackageManager()) != null) {
                        startActivity(intent);
                    }
                }
            });

        }
    }
```

3. CODE FOR STORING DATA

This file contains all codes of data storing and retrieving .

```java
package com.example.my_bookmark;
import android.content.Context;
import java.io.FileInputStream;
import java.io.FileNotFoundException;
import java.io.FileOutputStream;
import java.io.IOException;
import java.io.ObjectInputStream;
import java.io.ObjectOutputStream;
import java.util.ArrayList;

public class mydata {
    public  static final String titlefile="mydata1";
    public  static  final String urlFile="mydata2";
    public  static  void writeData(ArrayList <String> title,ArrayList<String> url,Context context){
        try {
            FileOutputStream fos1=context.openFileOutput(titlefile,Context.MODE_PRIVATE);
            FileOutputStream fos2=context.openFileOutput(urlFile,Context.MODE_PRIVATE);
            ObjectOutputStream oas1=new ObjectOutputStream(fos1);
            ObjectOutputStream oas2=new ObjectOutputStream(fos2);
            oas1.writeObject(title);
            oas2.writeObject(url);
            oas1.close();
            oas2.close();

        } catch (FileNotFoundException e) {
            e.printStackTrace();
        } catch (IOException e) {
            e.printStackTrace();
        }
    }
    public  static   ArrayList<String> readTitle(Context context){
        ArrayList <String> list=null;
```

```java
        try {
            FileInputStream fis=context.openFileInput(titlefile);
            ObjectInputStream ois=new ObjectInputStream(fis);
            list=(ArrayList<String>) ois.readObject();

        } catch (FileNotFoundException e) {
            list =new ArrayList<>();
            e.printStackTrace();
        } catch (IOException e) {
            e.printStackTrace();
        } catch (ClassNotFoundException e) {
            e.printStackTrace();
        }
        return  list;
    }

    public  static   ArrayList<String> readURL(Context context){
        ArrayList <String> list=null;
        try {
            FileInputStream fis=context.openFileInput(urlFile);
            ObjectInputStream ois=new ObjectInputStream(fis);
            list=(ArrayList<String>)ois.readObject();

        } catch (FileNotFoundException e) {
            list=new ArrayList<>();
            e.printStackTrace();
        } catch (IOException e) {
            e.printStackTrace();
        } catch (ClassNotFoundException e) {
            e.printStackTrace();
        }
        return  list;
    }
}
```

<u>CONCLUSION</u>

In conclusion, the development and implementation of our Android app project have been a significant achievement. Through extensive research, meticulous planning, and rigorous coding, we have successfully created a functional and user-friendly mobile application that meets the project's objectives.

Our app's primary goal was to provide users with a seamless and intuitive experience while offering a range of valuable features

Furthermore, the app project has provided valuable insights into the intricacies of mobile app development, user interface design, and software engineering. It has deepened our understanding of the Android ecosystem and the best practices in creating mobile applications.

REFERENCES

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