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Lampiran -1 Activity_main.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"
    tools:context=".MainActivity">
<Button
    android:id="@+id/btnGallery"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"
    android:layout_marginTop="32dp"
    android:text="@string/load_image"
    app:layout_constraintEnd_toStartOf="@+id/guideline2"

    app:layout_constraintHorizontal_bias="1.0"

    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/imageView"
    tools:ignore="TextContrastCheck"
/>
<ImageView
    android:id="@+id/imageView"
    android:layout_width="300dp"
    android:layout_height="400dp"
    android:layout_marginTop="16dp"

    android:contentDescription="@string/place_holder"

    android:src="@drawable/place_holder"

    app:layout_constraintEnd_toEndOf="pa
```

```
rent"
    app:layout_constraintHorizontal_bias="0.5"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent"

    tools:ignore="ImageContrastCheck" />
<TextView
    android:id="@+id/textView"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_marginStart="36dp"
    android:layout_marginTop="24dp"
    android:text="@string/output"
    android:textSize="21sp"

    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/btnGallery" />
<TextView
    android:id="@+id/outputTextView"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_marginStart="36dp"
    android:layout_marginTop="8dp"

    android:textColor="@color/purple_200"
    android:textSize="30sp"

    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView"
    tools:ignore="TextContrastCheck"
/>
<TextView

    android:layout_width="wrap_content"
```

```

android:layout_height="wrap_content"

android:layout_marginStart="36dp"
    android:layout_marginTop="8dp"
    android:textSize="13sp"

app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@id/outputTextView" />
<androidx.constraintlayout.widget.Guideline
    android:id="@+id/guideline2"

android:layout_width="wrap_content"

android:layout_height="wrap_content"
    android:orientation="vertical"

app:layout_constraintGuide_percent="0.67" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Lampiran -2 activity_main.java

```

package com.gracedian.brailledetection

import android.Manifest
import android.content.Intent
import android.content.pm.PackageManager
import android.graphics.Bitmap
import android.os.Bundle
import android.provider.MediaStore
import android.widget.Button
import android.widget.ImageView
import android.widget.TextView
import android.widget.Toast
import androidx.appcompat.app.AppCompatActivity
import androidx.core.app.ActivityCompat
import androidx.core.content.ContextCompat
import com.gracedian.brailledetection.ml.Mode
import com.gracedian.brailledetection.ml.Braille

```

```

import org.tensorflow.lite.support.image.TensorImage
import java.util.logging.Logger
class MainActivity : AppCompatActivity() {

    private val IMAGE_PICK_REQUEST_CODE = 102
    private lateinit var photoImageView: ImageView
    private lateinit var btnGallery: Button
    private lateinit var outputTextView: TextView
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)

        setContentView(R.layout.activity_main)
        actionBar?.setTitle(R.string.app_name)
        photoImageView = findViewById(R.id.imageView)
        btnGallery = findViewById(R.id.btnGallery)
        outputTextView = findViewById(R.id.outputTextView)
        btnGallery.setOnClickListener {
            pickImage()
        }
        fun pickImage() {
            val intent = Intent(Intent.ACTION_PICK)
            intent.type = "image/*"
            startActivityForResult(intent, IMAGE_PICK_REQUEST_CODE)
            private fun resizeBitmap(bitmap: Bitmap, targetWidth: Int, targetHeight: Int): Bitmap {
                return Bitmap.createScaledBitmap(bitmap, targetWidth, targetHeight, true)
            }
            override fun onActivityResult(requestCode: Int, resultCode: Int, data: Intent?) {
                super.onActivityResult(requestCode, resultCode, data)
                if (resultCode == RESULT_OK) {

```

```

        when (requestCode) {
            IMAGE_PICK_REQUEST_CODE -> {
                val selectedImage =
                    data?.data
                val bitmap =
                    MediaStore.Images.Media.getBitmap(this.
                    contentResolver, selectedImage)
                val resizedBitmap =
                    resizeBitmap(bitmap, 224, 224) // Ubah
                    ukuran gambar menjadi 224x224

                photoImageView.setImageBitmap(resized
                Bitmap)
                outputGenerator(resizedBitmap) }}
            } }
            private fun outputGenerator(bitmap:
            Bitmap) {
                TensorFlow Lite
                val model =
                    ModelBraille.newInstance(this)
                val tfimage =
                    TensorImage.fromBitmap(bitmap)
                val outputs =
                    model.process(tfimage)

                .probabilityAsCategoryList.apply {
                    sortByDescending { it.score }
                }
                if (outputs.isNotEmpty()) {
                    val highProbabilityOutput =
                    outputs[0]
                    OutputTextView.text="" +highProbabilit
                    yOutput.label
                    Logger.getLogger("TAG").info("output
                    Generator: $highProbabilityOutput")
                } else {
                    outputTextView.text = "Tidak
                    ada hasil yang ditemukan" }
                    model.close()

```

Lampiran-3 menuZ2.xml

```

<?xml version="1.0" encoding="utf-
8"?>
<RelativeLayout
    xmlns:android="http://schemas.android.
    com/apk/res/android"

    xmlns:app="http://schemas.android.com
    /apk/res-auto"
    xmlns:tools="http://schemas.android.co
    m/tools"

    android:layout_width="match_parent"

    android:layout_height="match_parent"
    tools:context=".Menuz2">
    <Button
        android:id="@+id/btnbraille"
        android:layout_width="300dp"

        android:layout_height="wrap_content"

        android:layout_centerInParent="true"

        android:layout_marginBottom="10dp"

        android:background="@color/lavender"
        android:text="Braille ke teks "
        android:textColor="#263238" />
    <Button
        android:id="@+id/btntekstobrilie"
        android:layout_width="300dp"

        android:layout_height="wrap_content"

        android:layout_below="@+id/btnbraille
        "

        android:layout_centerInParent="true"

        android:layout_marginBottom="10dp"

        android:background="@color/lavender"
        android:text="Teks ke braille "
        android:textColor="#263238" />
</RelativeLayout>

```

Lampiran -4 menuZ2.java

```

package com.gracedian.brailledetection;

import
androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

public class Menuz2 extends
AppCompatActivity implements
View.OnClickListener {
    private Button braille,tekstobracille;

    @Override
    protected void onCreate(Bundle
savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_menu
z2);
        braille=(Button)
findViewById(R.id.btnbraille);
        tekstobracille=(Button)
findViewById(R.id.btntekstobracille);

braille.setOnClickListener((View.OnCli
ckListener) this);

tekstobracille.setOnClickListener((View.
OnClickListener) this);

    }
    @Override
    public void onClick(View v) {
        Intent i;
        int id = v.getId();
        if (id == R.id.btntekstobracille) {
            i = new Intent(this, Z2.class);
            startActivity(i);
        } else if (id == R.id.btnbraille) {
            i = new Intent(this,
BrailleteoText.class);
            startActivity(i);
        }
    }

```

```

    }
}

```

Lampiran -5 activity_Z2.xml

```

<?xml version="1.0" encoding="utf-
8"?>
<RelativeLayout
xmlns:android="http://schemas.android.
com/apk/res/android"

xmlns:app="http://schemas.android.com
/apk/res-auto"

xmlns:tools="http://schemas.android.co
m/tools"

android:layout_width="match_parent"

android:layout_height="match_parent"
tools:context=".Z2"

android:background="@color/white">
<EditText
    android:id="@+id/inputEditText"

    android:layout_width="match_parent"
    android:layout_height="180dp"

    android:background="@color/lavender"
    android:fontFamily="monospace"
    android:hint="text"
    tools:ignore="TextSizeCheck" />

<Button
    android:id="@+id/convertButton"
    android:layout_width="100dp"
    android:layout_height="50dp"

    android:layout_below="@id/outputText
view"

    android:background="@color/lavender"

    android:fontFamily="@font/poppins_se
mibold"
    android:text="Ubah"
    android:layout_marginLeft="50dp"
    android:textAlignment="center"
    android:textColor="@color/black"
    android:textSize="16dp" />

```

```

<Button
    android:id="@+id/btnhps"
    android:layout_width="100dp"
    android:layout_height="50dp"

    android:background="@color/lavender"

    android:layout_below="@id/outputText
view"

    android:layout_centerVertical="true"

    android:layout_marginLeft="200dp"
    android:text="Hapus"

    android:layout_marginBottom="10dp"
    android:textAlignment="center"
    android:textColor="@color/black"
    android:textSize="16dp" />
<TextView
    android:textColor="@color/black"

    android:layout_below="@+id/inputEdit
Text"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"
    android:textSize="50dp"

    android:id="@+id/outputTextview"/>
</RelativeLayout>

```

Lampiran -6 Z2.java

```

package com.gracedian.brailledetection;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import
androidx.appcompat.app.AppCompatActivity;
public class Z2 extends
AppCompatActivity {
    private TextView brailleTextView;
    private EditText inputEditText;
    private Button convertButton;

    @Override
    protected void onCreate(Bundle
savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_z2);

        inputEditText =
findViewById(R.id.inputEditText);
        convertButton =
findViewById(R.id.convertButton);
        brailleTextView =
findViewById(R.id.outputTextview);

        convertButton.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String inputText =
inputEditText.getText().toString();
                String brailleText =
BrailleConverter.convertToBraille(input
Text);
                brailleTextView.setText(brailleText);
            }
        });
    }
}

```

Lampiran -7 Z3.xml

```

<?xml version="1.0" encoding="utf-8"?>
<ScrollView
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:orientation="vertical"

android:layout_height="match_parent"
    tools:context=".Z3"

android:background="@color/white">

<LinearLayout

android:layout_width="match_parent"
    android:orientation="vertical"

android:layout_height="match_parent">

<ImageView
    android:id="@+id/hurufa"
    android:layout_width="180dp"
    android:layout_height="250dp"

    android:background="@color/white"
    android:layout_gravity="center"
    android:layout_marginTop="30dp"
/>

<LinearLayout

    android:layout_marginTop="40dp"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"
    android:gravity="center"
    android:orientation="horizontal"
    android:padding="0dp">
<ImageButton

```

```

    android:id="@+id/hrfa"
    android:layout_width="48dp"
    android:layout_height="68dp"

    android:layout_marginRight="18dp"

    android:layout_marginBottom="5dp"
    android:clickable="true"
    android:layout_alignParentBottom="true"
"

    android:layout_centerHorizontal="true"

    android:background="@drawable/a"

    android:contentDescription="Tampilga mbar" />
<ImageButton
    android:id="@+id/hrfb"
    android:layout_width="48dp"
    android:layout_height="68dp"

    android:layout_marginRight="18dp"

    android:layout_marginBottom="5dp"
    android:clickable="true"

    android:layout_alignParentBottom="true"
"

    android:layout_centerHorizontal="true"

    android:background="@drawable/b"

    android:contentDescription="Tampilga mbar" />
<ImageButton
    android:id="@+id/hrfc"
    android:layout_width="48dp"
    android:layout_height="68dp"

    android:layout_marginRight="18dp"

    android:layout_marginBottom="5dp"
    android:clickable="true"

    android:layout_alignParentBottom="true"
"

    android:layout_centerHorizontal="true"

```

```

        android:background="@drawable/c"

        android:contentDescription="Tampilga
        mbar" />
        <ImageButton
            android:id="@+id/hrfd"
            android:layout_width="48dp"
            android:layout_height="68dp"

        android:layout_marginRight="18dp"

        android:layout_marginBottom="5dp"
            android:clickable="true"

        android:layout_alignParentBottom="true
        "
        android:layout_centerHorizontal="true"

        android:background="@drawable/d"

        android:contentDescription="Tampilga
        mbar" />
        <ImageButton
            android:id="@+id/hrfe"
            android:layout_width="48dp"
            android:layout_height="68dp"

        android:layout_marginRight="18dp"

        android:layout_marginBottom="5dp"
            android:clickable="true"

        android:layout_alignParentBottom="true
        "

        android:layout_centerHorizontal="true"

        android:background="@drawable/e"

        android:contentDescription="Tampilga
        mbar" />
        </LinearLayout>
        <LinearLayout

        android:layout_width="match_parent"

        android:layout_height="wrap_content"
            android:gravity="center"
            android:orientation="horizontal"

            android:padding="2dp">
        <ImageButton
            android:id="@+id/hrff"
            android:layout_width="48dp"
            android:layout_height="68dp"

        android:layout_alignParentBottom="true
        "

        android:layout_centerHorizontal="true"

        android:layout_marginRight="18dp"

        android:layout_marginBottom="5dp"

        android:background="@drawable/f"
            android:clickable="true"

        android:contentDescription="gambar" />
        <ImageButton
            android:id="@+id/hrfg"
            android:layout_width="48dp"
            android:layout_height="68dp"

        android:layout_marginRight="18dp"
        android:layout_marginBottom="5dp"
            android:clickable="true"

        android:layout_alignParentBottom="true
        "

        android:layout_centerHorizontal="true"

        android:background="@drawable/g"

        android:contentDescription="Gambar"
        />
        <ImageButton
            android:id="@+id/hrfh"
            android:layout_width="48dp"
            android:layout_height="68dp"

        android:layout_marginRight="18dp"

        android:layout_marginBottom="5dp"
            android:clickable="true"

        android:layout_alignParentBottom="true
        "

```

```

android:layout_centerHorizontal="true"

android:background="@drawable/h"

android:contentDescription="Gambar"
/>
<ImageButton
    android:id="@+id/hrfi"
    android:layout_width="48dp"
    android:layout_height="68dp"

android:layout_marginRight="18dp"

android:layout_marginBottom="5dp"
    android:clickable="true"

android:layout_alignParentBottom="true"
"

android:layout_centerHorizontal="true"

android:background="@drawable/i"

android:contentDescription="Gambar"
/>
<ImageButton
    android:id="@+id/hrfj"
    android:layout_width="48dp"
    android:layout_height="68dp"

android:layout_marginRight="18dp"

android:layout_marginBottom="5dp"
    android:clickable="true"

android:layout_alignParentBottom="true"
"

android:layout_centerHorizontal="true"

android:background="@drawable/j"

android:contentDescription="Gambar"
/>
</LinearLayout>
<LinearLayout

android:layout_width="match_parent"

```

```

android:layout_height="wrap_content"
    android:gravity="center"
    android:orientation="horizontal"
    android:padding="2dp">
<ImageButton
    android:id="@+id/hrfk"
    android:layout_width="48dp"
    android:layout_height="68dp"

android:layout_marginRight="18dp"

android:layout_marginBottom="5dp"
    android:clickable="true"

android:layout_alignParentBottom="true"
"

android:layout_centerHorizontal="true"

android:background="@drawable/k"

android:contentDescription="Tampilga
mbar" />
<ImageButton
    android:id="@+id/hrfl"
    android:layout_width="48dp"
    android:layout_height="68dp"

android:layout_marginRight="18dp"

android:layout_marginBottom="5dp"
    android:clickable="true"

android:layout_alignParentBottom="true"
"

android:layout_centerHorizontal="true"

android:background="@drawable/l"

android:contentDescription="Tampilga
mbar" />
<ImageButton
    android:id="@+id/hrfm"
    android:layout_width="48dp"
    android:layout_height="68dp"

android:layout_marginRight="18dp"
android:layout_marginBottom="5dp"

```

```

        android:clickable="true"

        android:layout_alignParentBottom="true"
        "

        android:layout_centerHorizontal="true"

        android:background="@drawable/m"

        android:contentDescription="Tampilga
        mbar" />
        <ImageButton
            android:id="@+id/hrfn"
            android:layout_width="48dp"
            android:layout_height="68dp"

        android:layout_marginRight="18dp"

        android:layout_marginBottom="5dp"
            android:clickable="true"

        android:layout_alignParentBottom="true"
        "

        android:layout_centerHorizontal="true"

        android:background="@drawable/n"

        android:contentDescription="Tampilga
        mbar" />
        <ImageButton
            android:id="@+id/hrfo"
            android:layout_width="48dp"
            android:layout_height="68dp"

        android:layout_marginRight="18dp"

        android:layout_marginBottom="5dp"
            android:clickable="true"

        android:layout_alignParentBottom="true"
        "

        android:layout_centerHorizontal="true"

        android:background="@drawable/o"

        android:contentDescription="Tampilga
        mbar" />
    </LinearLayout>

```

```

<LinearLayout

        android:layout_width="match_parent"

        android:layout_height="wrap_content"
            android:gravity="center"
            android:orientation="horizontal"
            android:padding="2dp">
        <ImageButton
            android:id="@+id/hrfp"
            android:layout_width="48dp"
            android:layout_height="68dp"

        android:layout_marginRight="18dp"

        android:layout_marginBottom="5dp"
            android:clickable="true"

        android:layout_alignParentBottom="true"
        "

        android:layout_centerHorizontal="true"

        android:background="@drawable/p"

        android:contentDescription="Tampilga
        mbar" />
        <ImageButton
            android:id="@+id/hrfq"
            android:layout_width="48dp"
            android:layout_height="68dp"

        android:layout_marginRight="18dp"

        android:layout_marginBottom="5dp"
            android:clickable="true"

        android:layout_alignParentBottom="true"
        "

        android:layout_centerHorizontal="true"

        android:background="@drawable/q"

        android:contentDescription="Tampilga
        mbar" />
        <ImageButton
            android:id="@+id/hrfr"
            android:layout_width="48dp"
            android:layout_height="68dp"

```

```

android:layout_marginRight="18dp"

android:layout_marginBottom="5dp"
    android:clickable="true"

android:layout_alignParentBottom="true"
"

android:layout_centerHorizontal="true"

android:background="@drawable/r"
    android:contentDescription="Tampilan gambar" />
<ImageButton
    android:id="@+id/hrfs"
    android:layout_width="48dp"
    android:layout_height="68dp"

android:layout_marginRight="18dp"

android:layout_marginBottom="5dp"
    android:clickable="true"

android:layout_alignParentBottom="true"
"

android:layout_centerHorizontal="true"

android:background="@drawable/s"

android:contentDescription="Tampilan gambar" />
<ImageButton
    android:id="@+id/hrft"
    android:layout_width="48dp"
    android:layout_height="68dp"

android:layout_marginRight="18dp"

android:layout_marginBottom="5dp"
    android:clickable="true"

android:background="@drawable/t"

android:contentDescription="Tampilan gambar" />
</LinearLayout>
<LinearLayout

```

```

android:layout_width="match_parent"

android:layout_height="wrap_content"
    android:gravity="center"
    android:orientation="horizontal"
    android:padding="2dp">
<ImageButton
    android:id="@+id/hrfu"
    android:layout_width="48dp"
    android:layout_height="68dp"

android:layout_marginRight="18dp"

android:layout_marginBottom="5dp"
    android:clickable="true"

android:layout_alignParentBottom="true"
"

android:layout_centerHorizontal="true"

android:background="@drawable/u"
    Description="Tampilan gambar" />
<ImageButton
    android:id="@+id/hrfv"
    android:layout_width="48dp"
    android:layout_height="68dp"

android:layout_marginRight="18dp"

android:layout_marginBottom="5dp"
    android:clickable="true"

android:layout_alignParentBottom="true"
"

android:layout_centerHorizontal="true"

android:background="@drawable/v"

android:contentDescription="Tampilan gambar" />
<ImageButton
    android:id="@+id/hrfw"
    android:layout_width="48dp"
    android:layout_height="68dp"

android:layout_marginRight="18dp"

```

```

        android:layout_marginBottom="5dp"
            android:clickable="true"

        android:layout_alignParentBottom="true"
        "

        android:layout_centerHorizontal="true"

        android:background="@drawable/w"
        android:contentDescription="Tampilga
        mbar" />
        <ImageButton
            android:id="@+id/hrfx"
            android:layout_width="48dp"
            android:layout_height="68dp"

        android:layout_marginRight="18dp"

        android:layout_marginBottom="5dp"
            android:clickable="true"

        android:layout_alignParentBottom="true"
        "

        android:layout_centerHorizontal="true"

        android:background="@drawable/x"
        android:contentDescription="Tampilga
        mbar" />
        <ImageButton
            android:id="@+id/hrfy"
            android:layout_width="48dp"
            android:layout_height="68dp"

        android:layout_marginRight="18dp"

        android:layout_marginBottom="5dp"
            android:clickable="true"

        android:layout_alignParentBottom="true"
        "

        android:layout_centerHorizontal="true"

        android:background="@drawable/y"
        android:contentDescription="Tampilga
        mbar" />
        </LinearLayout>
        <LinearLayout

```

```

        android:layout_width="match_parent"

        android:layout_height="wrap_content"
            android:gravity="center"
            android:orientation="horizontal"
            android:padding="2dp">
        <ImageButton
            android:id="@+id/hrfz"
            android:layout_width="48dp"
            android:layout_height="68dp"

        android:layout_marginRight="18dp"

        android:layout_marginBottom="5dp"
            android:clickable="true"

        android:layout_alignParentBottom="true"
        "

        android:layout_centerHorizontal="true"

        android:background="@drawable/z"

        android:contentDescription="Tampilga
        mbar" />
        </LinearLayout>
        </LinearLayout>
        </ScrollView>

```

Lampiran -8 Z3.java

```

package com.gracedian.brailledetection;

import android.media.MediaPlayer;
import android.os.Bundle;
import android.view.View;
import android.widget.ImageButton;
import android.widget.ImageView;
import
androidx.appcompat.app.AppCompatActivity;

public class Z3 extends
AppCompatActivity {
    ImageButton show;
    ImageView TampilGambar;

    @Override

```

```

        protected void onCreate(Bundle
savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_z3);

        TampilGambar = (ImageView)
findViewById(R.id.hurufa);
        show = (ImageButton)
findViewById(R.id.hrfa);
        show = (ImageButton)
findViewById(R.id.hrfb);
        show.setOnClickListener(new
View.OnClickListener(){
            @Override
            public void onClick(View v){

TampilGambar.setVisibility(View.VISI
BLE);
        }
    });
    show.setOnClickListener(new
View.OnClickListener(){
        @Override
        public void onClick(View v){

TampilGambar.setVisibility(View.INVI
SIBLE);
        }
    });

        final MediaPlayer suaraaa =
MediaPlayer.create(this,R.raw.suaraa);
        final MediaPlayer suarabb =
MediaPlayer.create(this,R.raw.suarab);
        final MediaPlayer suaracc =
MediaPlayer.create(this,R.raw.suarac);
        final MediaPlayer suaradd =
MediaPlayer.create(this,R.raw.suarad);
        final MediaPlayer suaraee =
MediaPlayer.create(this,R.raw.suarae);
        final MediaPlayer suaraff =
MediaPlayer.create(this,R.raw.suaraf);
        final MediaPlayer suaragg =
MediaPlayer.create(this,R.raw.suarag);
        final MediaPlayer suarahh =
MediaPlayer.create(this,R.raw.suarah);
        final MediaPlayer suaraii =
MediaPlayer.create(this,R.raw.suarai);

```

```

        final MediaPlayer suarajj =
MediaPlayer.create(this,R.raw.suaraj);
        final MediaPlayer suarakk =
MediaPlayer.create(this,R.raw.suarak);
        final MediaPlayer suarall =
MediaPlayer.create(this,R.raw.suaral);
        final MediaPlayer suaramm =
MediaPlayer.create(this,R.raw.suaram);
        final MediaPlayer suarann =
MediaPlayer.create(this,R.raw.suaran);
        final MediaPlayer suaraoo =
MediaPlayer.create(this,R.raw.suara0);
        final MediaPlayer suarapp =
MediaPlayer.create(this,R.raw.suarap);
        final MediaPlayer suaraqq =
MediaPlayer.create(this,R.raw.suaraq);
        final MediaPlayer suararr =
MediaPlayer.create(this,R.raw.suarar);
        final MediaPlayer suarass =
MediaPlayer.create(this,R.raw.suaras);
        final MediaPlayer suaratt =
MediaPlayer.create(this,R.raw.suarat);
        final MediaPlayer suarauu =
MediaPlayer.create(this,R.raw.suarau);
        final MediaPlayer suaravv =
MediaPlayer.create(this,R.raw.suarav);
        final MediaPlayer suaraww =
MediaPlayer.create(this,R.raw.suaraw);
        final MediaPlayer suaraxx =
MediaPlayer.create(this,R.raw.suarax);
        final MediaPlayer suarayy =
MediaPlayer.create(this,R.raw.suaray);
        final MediaPlayer suarazz =
MediaPlayer.create(this,R.raw.suaraz);

        ImageButton a = (ImageButton)
this.findViewById(R.id.hrfa);
        ImageButton b =(ImageButton)
this.findViewById(R.id.hrfb);
        ImageButton c = (ImageButton)
this.findViewById(R.id.hrfc);
        ImageButton d = (ImageButton)
this.findViewById(R.id.hrfd);
        ImageButton e =(ImageButton)
this.findViewById(R.id.hrfe);
        ImageButton f = (ImageButton)
this.findViewById(R.id.hrff);
        ImageButton g = (ImageButton)
this.findViewById(R.id.hrfg);

```

```

        ImageButton h =(ImageButton)
this.findViewById(R.id.hrfh);
        ImageButton i = (ImageButton)
this.findViewById(R.id.hrfi);
        ImageButton j = (ImageButton)
this.findViewById(R.id.hrfj);
        ImageButton k =(ImageButton)
this.findViewById(R.id.hrfk);
        ImageButton l = (ImageButton)
this.findViewById(R.id.hrfl);
        ImageButton m = (ImageButton)
this.findViewById(R.id.hrfm);
        ImageButton n =(ImageButton)
this.findViewById(R.id.hrfn);
        ImageButton o = (ImageButton)
this.findViewById(R.id.hrfo);
        ImageButton p = (ImageButton)
this.findViewById(R.id.hrfp);
        ImageButton q =(ImageButton)
this.findViewById(R.id.hrfq);
        ImageButton r = (ImageButton)
this.findViewById(R.id.hrfr);
        ImageButton s = (ImageButton)
this.findViewById(R.id.hrfs);
        ImageButton t =(ImageButton)
this.findViewById(R.id.hrft);
        ImageButton u = (ImageButton)
this.findViewById(R.id.hrfu);
        ImageButton v = (ImageButton)
this.findViewById(R.id.hrfv);
        ImageButton w =(ImageButton)
this.findViewById(R.id.hrfw);
        ImageButton x = (ImageButton)
this.findViewById(R.id.hrfx);
        ImageButton y =(ImageButton)
this.findViewById(R.id.hrfy);
        ImageButton z = (ImageButton)
this.findViewById(R.id.hrfz);

```

```

        a.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View v) {

```

```

TampilGambar.setImageResource(R.dra
wable.aa);
                suaaaa.start();    } });
        b.setOnClickListener(new
View.OnClickListener() {
            @Override

```

```

        public void onClick(View v) {

```

```

TampilGambar.setImageResource(R.dra
wable.bb);
                suarabb.start();} });

```

```

        c.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View v) {

```

```

TampilGambar.setImageResource(R.dra
wable.cc);
                suaracc.start(); } });

```

```

        d.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View v) {

```

```

TampilGambar.setImageResource(R.dra
wable.dd);
                suaradd.start();    } });

```

```

        e.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View v) {

```

```

TampilGambar.setImageResource(R.dra
wable.ee);
                suaraee.start();    } });

```

```

        f.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View v) {

```

```

TampilGambar.setImageResource(R.dra
wable.ff);
                suaraff.start();}    });

```

```

        g.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View v) {
TampilGambar.setImageResource(R.dra
wable.gg);

```

```

                suaragg.start(); }    });
        h.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View v) {

```

```

TampilGambar.setImageResource(R.drawable.hh);
        suarahh.start();});
        i.setOnClickListener(new
View.OnClickListener() {
        @Override
        public void onClick(View v) {

TampilGambar.setImageResource(R.drawable.ii);
        suaraii.start();} });
        j.setOnClickListener(new
View.OnClickListener() {
        @Override
        public void onClick(View v) {

TampilGambar.setImageResource(R.drawable.jj);
        suarajj.start();} });
        k.setOnClickListener(new
View.OnClickListener() {
        @Override
        public void onClick(View v) {

TampilGambar.setImageResource(R.drawable.kk);
        suarakk.start();
        }
        });

        l.setOnClickListener(new
View.OnClickListener() {
        @Override
        public void onClick(View v) {

TampilGambar.setImageResource(R.drawable.ll);
        suarall.start();
        }
        });
        m.setOnClickListener(new
View.OnClickListener() {
        @Override
        public void onClick(View v) {

TampilGambar.setImageResource(R.drawable.mm);
        suaramm.start();
        }

        });
        n.setOnClickListener(new
View.OnClickListener() {
        @Override
        public void onClick(View v) {

TampilGambar.setImageResource(R.drawable.nn);
        suarann.start();
        }
        });
        o.setOnClickListener(new
View.OnClickListener() {
        @Override
        public void onClick(View v) {

TampilGambar.setImageResource(R.drawable.oo);
        suaraoo.start();
        }
        });
        p.setOnClickListener(new
View.OnClickListener() {
        @Override
        public void onClick(View v) {

TampilGambar.setImageResource(R.drawable.pp);
        suarapp.start();
        }
        });
        q.setOnClickListener(new
View.OnClickListener() {
        @Override
        public void onClick(View v) {

TampilGambar.setImageResource(R.drawable.qq);
        suaraqq.start();
        }
        });
        r.setOnClickListener(new
View.OnClickListener() {
        @Override
        public void onClick(View v) {

```



```
<RelativeLayout
xmlns:android="http://schemas.android.
com/apk/res/android"
```

```
xmlns:app="http://schemas.android.com
/apk/res-auto"
```

```
xmlns:tools="http://schemas.android.co
m/tools"
```

```
android:layout_width="match_parent"
```

```
android:layout_height="match_parent"
```

```
android:background="@drawable/bcinf
oo"
tools:context=".Z4">
```

```
<ImageView
    android:id="@+id/umpaar"
    android:layout_marginTop="20dp"
    android:layout_width="180dp"
    android:layout_height="200dp"
```

```
    android:layout_centerHorizontal="true"
    android:adjustViewBounds="true"
    android:scaleType="fitCenter"
```

```
    app:srcCompat="@drawable/umpar"
```

```
    android:background="@color/white"
/>
```

```
<TextView
    android:id="@+id/judul"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_below="@+id/umpaar"
```

```
    android:layout_centerHorizontal="true"
    android:layout_marginLeft="32dp"
```

```
    android:layout_marginRight="32dp"
```

```
    android:fontFamily="@font/poppins_se
mibold"
```

```
    android:text="Aplikasi Penerjemah
Huruf"
    android:textColor="@color/black"
    android:textSize="18sp" />
```

```
<TextView
    android:id="@+id/judul2"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
    android:layout_below="@+id/judul"
    android:layout_centerHorizontal="true"
    android:layout_marginLeft="32dp"
```

```
    android:layout_marginRight="32dp"
```

```
    android:fontFamily="@font/poppins_se
mibold"
```

```
    android:text="Braille"
    android:textColor="@color/black"
    android:textSize="18sp" />
```

```
<TextView
    android:id="@+id/text"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_below="@+id/judul2"
    android:layout_marginLeft="32dp"
```

```
    android:layout_marginRight="32dp"
    android:textAlignment="center"
    android:text="Aplikasi ini
merupakan sebuah rancangan untuk
menerjemahkan huruf braille dan
aplikasi ini juga menampilkan ilustrasi
huruf braille. "
    android:textSize="15sp" />
```

```
<TextView
    android:id="@+id/text3"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
    android:layout_below="@+id/text"
```

```
    android:layout_centerHorizontal="true"
```

```

        android:layout_marginTop="20dp"

        android:fontFamily="@font/poppins_semi_bold"
        android:text="Informasi    Tentang Saya:"
        android:textColor="@color/black"
        android:textSize="18sp" />
<ImageView
    android:id="@+id/telegram"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:src="@drawable/telegram"

    android:layout_below="@+id/text3"
    android:layout_marginTop="20dp"

    android:layout_centerHorizontal="true"
    android:adjustViewBounds="true"
    android:scaleType="fitCenter"/>
<ImageView
    android:id="@+id/ig"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:src="@drawable/ig"

    android:layout_below="@+id/text3"
    android:layout_marginTop="20dp"
    android:adjustViewBounds="true"
    android:layout_marginLeft="50dp"
    android:scaleType="fitCenter"

    android:layout_toRightOf="@+id/telegram"/>
<ImageView
    android:id="@+id/email"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:src="@drawable/apple"

    android:layout_below="@+id/text3"
    android:layout_marginTop="20dp"
    android:adjustViewBounds="true"

    android:layout_marginRight="50dp"
    android:scaleType="fitCenter"

    android:layout_toLeftOf="@+id/telegram"/>
</RelativeLayout>

```

Lampiran -10 Z4.java

```

package com.gracedian.brailledetection;

import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.ImageView;
import androidx.appcompat.app.AppCompatActivity;

public class Z4 extends AppCompatActivity {

    ImageView telegram, ig, email;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_z4);
        telegram = findViewById(R.id.telegram);
        ig = findViewById(R.id.ig);
        email = findViewById(R.id.email);

        telegram.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                gotoUrl("https://t.me/itsmeica4");
            }
        });
        ig.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                gotoUrl("https://instagram.com/_zizaaahh");
            }
        });
        email.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

```

```

gotoUrl("https://mail.google.com/21928
0039nurazizahramadana@gmail.com");
    }    }); }
    private void gotoUrl(String s){
        Uri uri = Uri.parse(s);
        startActivity(new
Intent(Intent.ACTION_VIEW,uri));}}

```

Lampiran-11 **activity_brailletotext.xml**

```

<?xml version="1.0" encoding="utf-
8"?>
<ScrollView
xmlns:android="http://schemas.android.
com/apk/res/android"

xmlns:app="http://schemas.android.com
/apk/res-auto"

xmlns:tools="http://schemas.android.co
m/tools"

    android:layout_width="match_parent"

    android:layout_height="match_parent"
        tools:context=".Brailletotext"

    android:background="@color/white">
    <LinearLayout
        android:layout_width="match_parent"
        android:orientation="vertical"
        android:layout_height="match_parent">

        <EditText
            android:id="@+id/inputEditText"

            android:layout_width="match_parent"
            android:layout_height="180dp"

            android:background="@color/lavender"
            android:textColor="@color/black"
            android:hint="text"
            android:textSize="30dp"
            tools:ignore="TextSizeCheck"
        />
        <TextView
            android:textColor="@color/black"

```

```

        android:layout_below="@+id/inputEdit
Text"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"
            android:textSize="20dp"

        android:id="@+id/outputTextview"/>
    <LinearLayout

        android:layout_width="match_parent"

        android:layout_height="wrap_content"
            android:layout_marginLeft="10dp"
            android:layout_marginRight="10dp"

        android:layout_centerHorizontal="true"
            android:layout_marginTop="20dp">

        <Button
            android:id="@+id/convertButton"
            android:layout_width="100dp"
            android:layout_height="50dp"
            android:layout_marginLeft="20dp"

            android:layout_below="@id/outputText
view"
            android:text="Ubah"

            android:background="@color/lavender"

            android:layout_marginBottom="10dp"

            android:textAlignment="center"

            android:textColor="@color/black"
            android:textSize="16dp" />

        <Button
            android:id="@+id/btnhps"
            android:layout_width="100dp"
            android:layout_height="50dp"

            android:background="@color/lavender"
            android:layout_below="@id/outputText
view"

            android:layout_centerVertical="true"

```

```

        android:layout_marginLeft="70dp"
        android:text="Hapus"

    android:layout_marginBottom="10dp"
        android:textAlignment="center"
        android:textColor="@color/black"
        android:textSize="16dp" />
</LinearLayout>

<!-- res/layout/keyboard_layout.xml -->

<LinearLayout
    android:id="@+id/layout1"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"
        android:layout_marginLeft="10dp"

    android:layout_marginRight="10dp"

    android:layout_centerHorizontal="true"

    android:layout_below="@+id/convertB
utton">

    <ImageButton

        android:layout_below="@+id/convertB
utton"
            android:layout_width="48dp"
            android:layout_height="68dp"

        android:layout_marginRight="18dp"

        android:layout_marginBottom="5dp"
            android:clickable="true"

        android:layout_alignParentBottom="true"

        android:layout_centerHorizontal="true"

        android:background="@drawable/aa"

        android:contentDescription="Tampilga
mbar"
            android:id="@+id/btnA"/>

```

```

<ImageButton
    android:layout_below="@+id/convertB
utton"
        android:layout_width="48dp"

    android:layout_height="68dp"

    android:layout_marginRight="18dp"

    android:layout_marginBottom="5dp"
        android:clickable="true"

    android:layout_alignParentBottom="true"

    android:layout_centerHorizontal="true"

    android:background="@drawable/bb"

    android:contentDescription="Tampilga
mbar"
        android:id="@+id/btnB"
    />
<ImageButton

    android:layout_below="@+id/convertB
utton"
        android:layout_width="48dp"
        android:layout_height="68dp"

    android:layout_marginRight="18dp"

    android:layout_marginBottom="5dp"
        android:clickable="true"

    android:layout_alignParentBottom="true"

    android:layout_centerHorizontal="true"

    android:background="@drawable/cc"

    android:contentDescription="Tampilga
mbar"
        android:id="@+id/btnC"
    />
<ImageButton

```

```

        android:layout_below="@+id/convertB
        utton"
            android:layout_width="48dp"
            android:layout_height="68dp"

        android:layout_marginRight="18dp"

        android:layout_marginBottom="5dp"
            android:clickable="true"

        android:layout_alignParentBottom="true
        "

        android:layout_centerHorizontal="true"

        android:background="@drawable/dd"

        android:contentDescription="Tampilga
        mbar"
            android:id="@+id/btnD"
        />
    <ImageButton

        android:layout_below="@+id/convertB
        utton"
            android:layout_width="48dp"
            android:layout_height="68dp"

        android:layout_marginRight="18dp"

        android:layout_marginBottom="5dp"
            android:clickable="true"

        android:layout_alignParentBottom="true
        "

        android:layout_centerHorizontal="true"

        android:background="@drawable/ee"

        android:contentDescription="Tampilga
        mbar"
            android:id="@+id/btnE"
        />
    </LinearLayout>
    <LinearLayout
        android:id="@+id/layout2"

```

```

        android:layout_width="match_parent"

        android:layout_height="wrap_content"
            android:layout_marginLeft="10dp"

        android:layout_marginRight="10dp"

        android:layout_centerHorizontal="true"

        android:layout_below="@+id/layout1">
    <ImageButton

        android:layout_below="@+id/convertB
        utton"
            android:layout_width="48dp"
            android:layout_height="68dp"

        android:layout_marginRight="18dp"

        android:layout_marginBottom="5dp"
            android:clickable="true"

        android:layout_alignParentBottom="true
        "

        android:layout_centerHorizontal="true"

        android:background="@drawable/ff"

        android:contentDescription="Tampilga
        mbar"
            android:id="@+id/btnF" />
    <ImageButton
        android:layout_below="@+id/convertB
        utton"
            android:layout_width="48dp"
            android:layout_height="68dp"

        android:layout_marginRight="18dp"

        android:layout_marginBottom="5dp"
            android:clickable="true"

        android:layout_alignParentBottom="true
        "

        android:layout_centerHorizontal="true"

```

```

        android:background="@drawable/gg"
        android:contentDescription="Tampilga
        mbar"
            android:id="@+id/btnG"
        />
<ImageButton
    android:layout_below="@+id/convertB
    utton"
        android:layout_width="48dp"
        android:layout_height="68dp"

    android:layout_marginRight="18dp"

    android:layout_marginBottom="5dp"
        android:clickable="true"

    android:layout_alignParentBottom="true
    "

    android:layout_centerHorizontal="true"

    android:background="@drawable/hh"

    android:contentDescription="Tampilga
    mbar"
        android:id="@+id/btnH"
    />

<ImageButton

    android:layout_below="@+id/convertB
    utton"
        android:layout_width="48dp"
        android:layout_height="68dp"

    android:layout_marginRight="18dp"

    android:layout_marginBottom="5dp"
        android:clickable="true"

    android:layout_alignParentBottom="true
    "

    android:layout_centerHorizontal="true"

    android:background="@drawable/ii"

    android:contentDescription="Tampilga
    mbar"

```

```

        android:id="@+id/btnI" />
<ImageButton
    android:layout_below="@+id/convertB
    utton"
        android:layout_width="48dp"
        android:layout_height="68dp"

    android:layout_marginRight="18dp"

    android:layout_marginBottom="5dp"
        android:clickable="true"

    android:layout_alignParentBottom="true
    "

    android:layout_centerHorizontal="true"

    android:background="@drawable/jj"

    android:contentDescription="Tampilga
    mbar"
        android:id="@+id/btnJ"
    />

</LinearLayout>
<LinearLayout
    android:id="@+id/layout3"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"
        android:layout_marginLeft="10dp"

    android:layout_marginRight="10dp"

    android:layout_centerHorizontal="true"

    android:layout_below="@+id/layout2">

<ImageButton

    android:layout_below="@+id/convertB
    utton"
        android:layout_width="48dp"
        android:layout_height="68dp"

    android:layout_marginRight="18dp"

    android:layout_marginBottom="5dp"

```

```

        android:clickable="true"

    android:layout_alignParentBottom="true"
    "

    android:layout_centerHorizontal="true"

    android:background="@drawable/kk"

    android:contentDescription="Tampilga
    mbar"
        android:id="@+id/btnK"
    />

    <ImageButton

    android:layout_below="@+id/convertB
    utton"
        android:layout_width="48dp"
        android:layout_height="68dp"

    android:layout_marginRight="18dp"

    android:layout_marginBottom="5dp"
        android:clickable="true"

    android:layout_alignParentBottom="true"
    "

    android:layout_centerHorizontal="true"

    android:background="@drawable/ll"

    android:contentDescription="Tampilga
    mbar"
        android:id="@+id/btnL" />
    <ImageButton
    android:layout_below="@+id/convertB
    utton"
        android:layout_width="48dp"
        android:layout_height="68dp"

    android:layout_marginRight="18dp"

    android:layout_marginBottom="5dp"
        android:clickable="true"

    android:layout_alignParentBottom="true"
    "

```

```

    android:layout_centerHorizontal="true"

    android:background="@drawable/mm"

    android:contentDescription="Tampilga
    mbar"
        android:id="@+id/btnM" />
    <ImageButton
    android:layout_below="@+id/convertB
    utton"
        android:layout_width="48dp"
        android:layout_height="68dp"

    android:layout_marginRight="18dp"

    android:layout_marginBottom="5dp"
        android:clickable="true"

    android:layout_alignParentBottom="true"
    "

    android:layout_centerHorizontal="true"

    android:background="@drawable/nn"

    android:contentDescription="Tampilga
    mbar"
        android:id="@+id/btnN"
    />

    <ImageButton

    android:layout_below="@+id/convertB
    utton"
        android:layout_width="48dp"
        android:layout_height="68dp"

    android:layout_marginRight="18dp"

    android:layout_marginBottom="5dp"
        android:clickable="true"

    android:layout_alignParentBottom="true"
    "

    android:layout_centerHorizontal="true"

    android:background="@drawable/oo"

```

```

        android:contentDescription="Tampilga
        mbar"
            android:id="@+id/btnO"
        />
    </LinearLayout>
    <LinearLayout
        android:id="@+id/layout4"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"
            android:layout_marginLeft="10dp"

        android:layout_marginRight="10dp"

        android:layout_centerHorizontal="true"

        android:layout_below="@+id/layout3">

        <ImageButton
            android:layout_below="@+id/convertB
            utton"
                android:layout_width="48dp"
                android:layout_height="68dp"

            android:layout_marginRight="18dp"

            android:layout_marginBottom="5dp"
                android:clickable="true"

            android:layout_alignParentBottom="true
            "
            android:layout_centerHorizontal="true"
            android:background="@drawable/pp"

        android:contentDescription="Tampilga
        mbar"
            android:id="@+id/btnP"/>
        <ImageButton
            android:layout_below="@+id/convertB
            utton"
                android:layout_width="48dp"
                android:layout_height="68dp"

            android:layout_marginRight="18dp"

            android:layout_marginBottom="5dp"
                android:clickable="true"

```

```

        android:layout_alignParentBottom="true
        "

        android:layout_centerHorizontal="true"

        android:background="@drawable/qq"

        android:contentDescription="Tampilga
        mbar"
            android:id="@+id/btnQ" />
        <ImageButton
            android:layout_below="@+id/convertB
            utton"
                android:layout_width="48dp"
                android:layout_height="68dp"

            android:layout_marginRight="18dp"

            android:layout_marginBottom="5dp"
                android:clickable="true"

            android:layout_alignParentBottom="true
            "

            android:layout_centerHorizontal="true"

            android:background="@drawable/rr"

        android:contentDescription="Tampilga
        mbar"
            android:id="@+id/btnR"/>
        <ImageButton
            android:layout_below="@+id/convertB
            utton"

            android:layout_width="48dp"
                android:layout_height="68dp"

            android:layout_marginRight="18dp"

            android:layout_marginBottom="5dp"
                android:clickable="true"

            android:layout_alignParentBottom="true
            "

            android:layout_centerHorizontal="true"

            android:background="@drawable/ss"

```

<pre> android:contentDescription="Tampilga mbar" android:id="@+id/btnS" /> <ImageButton android:layout_below="@+id/convertB utton" android:layout_width="48dp" android:layout_height="68dp" android:layout_marginRight="18dp" android:layout_marginBottom="5dp" android:clickable="true" android:layout_alignParentBottom="true " android:layout_centerHorizontal="true" android:background="@drawable/tt" android:contentDescription="Tampilga mbar" android:id="@+id/btnT" /> </LinearLayout> <LinearLayout android:id="@+id/layout5" android:layout_width="match_parent" android:layout_height="wrap_content" android:layout_marginLeft="10dp" android:layout_marginRight="10dp" android:layout_centerHorizontal="true" android:layout_below="@+id/layout4"> <ImageButton android:layout_below="@+id/convertB utton" android:layout_width="48dp" android:layout_height="68dp" </pre>	<pre> android:layout_width="48dp" android:layout_height="68dp" android:layout_marginRight="18dp" android:layout_marginBottom="5dp" android:clickable="true" android:layout_alignParentBottom="true " android:layout_centerHorizontal="true" android:background="@drawable/uu" android:contentDescription="Tampilga mbar" android:id="@+id/btnU" /> <ImageButton android:layout_below="@+id/convertB utton" android:layout_width="48dp" android:layout_height="68dp" android:layout_marginRight="18dp" android:layout_marginBottom="5dp" android:clickable="true" android:layout_alignParentBottom="true " android:layout_centerHorizontal="true" android:background="@drawable/vv" android:contentDescription="Tampilga mbar" android:id="@+id/btnV" /> <ImageButton android:layout_below="@+id/convertB utton" android:layout_width="48dp" android:layout_height="68dp" </pre>
--	--

```

android:layout_marginRight="18dp"

android:layout_marginBottom="5dp"
    android:clickable="true"

android:layout_alignParentBottom="true"
"

android:layout_centerHorizontal="true"

android:background="@drawable/ww"

android:contentDescription="Tampilga
mbar"
    android:id="@+id/btnW"
/>

```

<ImageButton

```

android:layout_below="@+id/convertB
utton"
    android:layout_width="48dp"
    android:layout_height="68dp"

android:layout_marginRight="18dp"

android:layout_marginBottom="5dp"
    android:clickable="true"

android:layout_alignParentBottom="true"
"

android:layout_centerHorizontal="true"

android:background="@drawable/xx"

android:contentDescription="Tampilga
mbar"
    android:id="@+id/btnX"
/>

<ImageButton

android:layout_below="@+id/convertB
utton"
    android:layout_width="48dp"
    android:layout_height="68dp"

```

```

android:layout_marginRight="18dp"

android:layout_marginBottom="5dp"
    android:clickable="true"

android:layout_alignParentBottom="true"
"

android:layout_centerHorizontal="true"

android:background="@drawable/yy"

android:contentDescription="Tampilga
mbar"
    android:id="@+id/btnY"
/>
</LinearLayout>

```

<LinearLayout

```

android:layout_width="match_parent"

android:layout_height="wrap_content"
    android:id="@+id/layout6"
    android:layout_marginLeft="10dp"

android:layout_marginRight="10dp"

android:layout_below="@+id/layout5"

android:layout_centerHorizontal="true"
>
<ImageButton

android:layout_below="@+id/convertB
utton"
    android:layout_width="48dp"
    android:layout_height="68dp"

android:layout_marginRight="18dp"

android:layout_marginBottom="5dp"
    android:clickable="true"

android:layout_alignParentBottom="true"
"

android:layout_centerHorizontal="true"

android:background="@drawable/zz"

```

```

android:contentDescription="Tampilga
mbar"
        android:id="@+id/btnZ"
    />
<Button
    android:id="@+id/btnspace"
    android:layout_width="250dp"
    android:layout_height="48dp"

    android:layout_marginLeft="10dp"
    android:onClick="onKeyClick"
    android:text="Space"
    android:textSize="20sp" />
</LinearLayout>
</LinearLayout>
</ScrollView>

```

Lampiran -12 brailletotext.java

```

package com.gracedian.brailledetection;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.ImageButton;
import android.widget.TextView;
import androidx.appcompat.app.
AppCompatActivity;

public class Brailletotext extends
AppCompatActivity {
    ImageButton
    btnA,btnB,btnC,btnD,btnE,btnF,btnG,btn
    H,btnI,btnJ,btnK,btnL,btnM,btnN,btnO
    ,btnP,btnQ,btnR,btnS,btnT,btnU,btnV,btn
    W,btnX,btnY,btnZ;
    Button btnspace;
    private TextView brailleTextView;
    private EditText inputEditText;
    private Button convertButton;
    Button btnhps;

    @Override
    protected void onCreate(Bundle
savedInstanceState) {

super.onCreate(savedInstanceState);

```

```

setContentView(R.layout.activity_brail
letotext);

        inputEditText =
        findViewById(R.id.inputEditText);
        convertButton =
        findViewById(R.id.convertButton);
        brailleTextView =
        findViewById(R.id.outputTextview);

        btnhps=findViewById(R.id.btnhps);
        btnA = (ImageButton)
        findViewById(R.id.btnA);
        btnB = (ImageButton)
        findViewById(R.id.btnB);
        btnC = (ImageButton)
        findViewById(R.id.btnC);
        btnD = (ImageButton)
        findViewById(R.id.btnD);
        btnE = (ImageButton)
        findViewById(R.id.btnE);
        btnF = (ImageButton)
        findViewById(R.id.btnF);
        btnG = (ImageButton)
        findViewById(R.id.btnG);
        btnH = (ImageButton)
        findViewById(R.id.btnH);
        btnI = (ImageButton)
        findViewById(R.id.btnI);
        btnJ = (ImageButton)
        findViewById(R.id.btnJ);
        btnK = (ImageButton)
        findViewById(R.id.btnK);
        btnL = (ImageButton)
        findViewById(R.id.btnL);
        btnM = (ImageButton)
        findViewById(R.id.btnM);
        btnN = (ImageButton)
        findViewById(R.id.btnN);
        btnO = (ImageButton)
        findViewById(R.id.btnO);
        btnP = (ImageButton)
        findViewById(R.id.btnP);
        btnQ = (ImageButton)
        findViewById(R.id.btnQ);
        btnR = (ImageButton)
        findViewById(R.id.btnR);
        btnS = (ImageButton)
        findViewById(R.id.btnS);

```

```

        btnT = (ImageButton)
findViewById(R.id.btnT);
        btnU = (ImageButton)
findViewById(R.id.btnU);
        btnV = (ImageButton)
findViewById(R.id.btnV);
        btnW =
(ImageButton)findViewById(R.id.btnW
);
        btnX = (ImageButton)
findViewById(R.id.btnX);
        btnY = (ImageButton)
findViewById(R.id.btnY);
        btnZ = (ImageButton)
findViewById(R.id.btnZ);
        btnspace = (Button)
findViewById(R.id.btnspace);
        btnA.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View v) {
inputEditText.setText(inputEditText.get
Text() + "• ");
            }
        });
        btnB.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View v) {

inputEditText.setText(inputEditText.get
Text() + "• ");
            }
        });
        btnC.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View v) {

inputEditText.setText(inputEditText.get
Text() + "••");
            }
        });
        btnD.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View v) {

inputEditText.setText(inputEditText.get
Text() + "•••");
            }
        });

```

```

        }
    });
    btnE.setOnClickListener(new
View.OnClickListener() {
        @Override
        public void onClick(View v) {

inputEditText.setText(inputEditText.get
Text() + "••");
        }
    });
    btnF.setOnClickListener(new
View.OnClickListener() {
        @Override
        public void onClick(View v) {

inputEditText.setText(inputEditText.get
Text() + "•••");
        }
    });
    btnG.setOnClickListener(new
View.OnClickListener() {
        @Override
        public void onClick(View v) {

inputEditText.setText(inputEditText.get
Text() + "••••");
        }
    });
    btnH.setOnClickListener(new
View.OnClickListener() {
        @Override
        public void onClick(View v) {

inputEditText.setText(inputEditText.get
Text() + "••••");
        }
    });
    btnI.setOnClickListener(new
View.OnClickListener() {
        @Override
        public void onClick(View v) {

inputEditText.setText(inputEditText.get
Text() + "••••");
        }
    });
    btnJ.setOnClickListener(new
View.OnClickListener() {

```

```

        @Override
        public void onClick(View v) {
            inputEditText.setText(inputEditText.getText() + "•");
        }
    });
    btnK.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) {

            inputEditText.setText(inputEditText.getText() + "• ");
        }
    });

    btnL.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) {

            inputEditText.setText(inputEditText.getText() + "• ");
        }
    });
    btnM.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) {
            inputEditText.setText(inputEditText.getText() + "•");
        }
    });
    btnN.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) {

            inputEditText.setText(inputEditText.getText() + "••");
        }
    });
    btnO.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) {

            inputEditText.setText(inputEditText.getText() + "••");
        }
    });

```

```

    }
    });
    btnP.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) {

            inputEditText.setText(inputEditText.getText() + "••");
        }
    });
    btnQ.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) {
            inputEditText.setText(inputEditText.getText() + "••");
        }
    });
    btnR.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) {

            inputEditText.setText(inputEditText.getText() + "••");
        }
    });
    btnS.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) {
            inputEditText.setText(inputEditText.getText() + "••");
        }
    });
    btnT.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) {

            inputEditText.setText(inputEditText.getText() + "••");
        }
    });
    btnU.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) {

```

```

inputEditText.setText(inputEditText.getText() + "⠨");
    }
    });
    btnV.setOnClickListener(new
View.OnClickListener() {
    @Override
    public void onClick(View v) {
inputEditText.setText(inputEditText.getText() + "⠨");
    }
    });
    btnW.setOnClickListener(new
View.OnClickListener() {
    @Override
    public void onClick(View v) {

inputEditText.setText(inputEditText.getText() + "⠨");
    }
    });
    btnX.setOnClickListener(new
View.OnClickListener() {
    @Override
    public void onClick(View v) {
inputEditText.setText(inputEditText.getText() + "⠨");
    }
    });
    btnY.setOnClickListener(new
View.OnClickListener() {
    @Override
    public void onClick(View v) {

inputEditText.setText(inputEditText.getText() + "⠨");
    }
    });
    btnZ.setOnClickListener(new
View.OnClickListener() {
    @Override
    public void onClick(View v) {

inputEditText.setText(inputEditText.getText() + "⠨");
    }
    });

    btnspace.setOnClickListener(new
View.OnClickListener() {
    @Override
    public void onClick(View v) {

inputEditText.setText(inputEditText.getText() + " ");
    }
    });
    btnhps.setOnClickListener(new
View.OnClickListener() {
    @Override
    public void onClick(View v) {
        inputEditText.setText(" ");
        brailleTextView.setText(" ");
    }
    });

convertButton.setOnClickListener(new
View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String inputText =
inputEditText.getText().toString();
        String brailleText =
BrailleConverter1.convertToBraille(inputText);

brailleTextView.setText(brailleText);
    }
    })
}}
Lampiran-13 brailleconverter1.java

package com.gracedian.brailledetection;

import java.util.HashMap;
import java.util.Map;

public class BrailleConverter1 {
    private static final Map<Character,
String> brailleMap = new
HashMap<>();
    static {
        brailleMap.put('⠁', "a");
        brailleMap.put('⠂', "b");
        brailleMap.put('⠃', "c");
        brailleMap.put('⠄', "d");
        brailleMap.put('⠅', "e");
    }
}

```

```

        brailleMap.put('⠋', "f");
        brailleMap.put('⠉', "g");
        brailleMap.put('⠈', "h");
        brailleMap.put('⠇', "i");
        brailleMap.put('⠊', "j");
        brailleMap.put('⠌', "k");
        brailleMap.put('⠍', "l");
        brailleMap.put('⠎', "m");
        brailleMap.put('⠏', "n");
        brailleMap.put('⠒', "o");
        brailleMap.put('⠓', "p");
        brailleMap.put('⠑', "q");
        brailleMap.put('⠔', "r");
        brailleMap.put('⠖', "s");
        brailleMap.put('⠗', "t");
        brailleMap.put('⠕', "u");
        brailleMap.put('⠘', "v");
        brailleMap.put('⠙', "w");
        brailleMap.put('⠚', "x");
        brailleMap.put('⠛', "y");
        brailleMap.put('⠞', "z");
        brailleMap.put('⠿', " ");
    }
    public static String
    convertToBraille(String text){
        StringBuilder brailleText = new
        StringBuilder();
        for (char c:
        text.toLowerCase().toCharArray()){
            if (brailleMap.containsKey(c)){
                brailleText.append(brailleMap.get(c));
            }
        }
        return brailleText.toString();
    }
}

```

Lampiran -14 brailleconverter.java

```

package com.gracedian.brailledetection;

import java.util.HashMap;
import java.util.Map;

public class BrailleConverter {
    private static final Map<Character,
    String> brailleMap = new
    HashMap<>();
    static {

```

```

        brailleMap.put('⠁', "a");
        brailleMap.put('⠃', "b");
        brailleMap.put('⠉', "c");
        brailleMap.put('⠇', "d");
        brailleMap.put('⠊', "e");
        brailleMap.put('⠌', "f");
        brailleMap.put('⠍', "g");
        brailleMap.put('⠈', "h");
        brailleMap.put('⠉', "i");
        brailleMap.put('⠊', "j");
        brailleMap.put('⠋', "k");
        brailleMap.put('⠍', "l");
        brailleMap.put('⠎', "m");
        brailleMap.put('⠏', "n");
        brailleMap.put('⠒', "o");
        brailleMap.put('⠓', "p");
        brailleMap.put('⠑', "q");
        brailleMap.put('⠔', "r");
        brailleMap.put('⠖', "s");
        brailleMap.put('⠗', "t");
        brailleMap.put('⠕', "u");
        brailleMap.put('⠘', "v");
        brailleMap.put('⠙', "w");
        brailleMap.put('⠚', "x");
        brailleMap.put('⠛', "y");
        brailleMap.put('⠞', "z");
        brailleMap.put('⠿', " ");
    }
    public static String
    convertToBraille(String text){
        StringBuilder brailleText = new
        StringBuilder();
        for (char c:
        text.toLowerCase().toCharArray()){
            if (brailleMap.containsKey(c)){
                brailleText.append(brailleMap.get(c));
            }
        }
        return brailleText.toString();
    }
}

```

Lampiran -15 training_dataset.py

```
import tensorflow as tf
from
tensorflow.keras.preprocessing.image
import ImageDataGenerator
from tensorflow.keras.applications
import MobileNetV2
from tensorflow.keras import layers,
models

tf.random.set_seed(42)
# Define directories for your dataset
(replace with your dataset path)
train_dir = 'files/train'
validation_dir = 'files/validation'
train_datagen =
ImageDataGenerator(rescale=1./255)
validation_datagen =
ImageDataGenerator(rescale=1./255)
batch_size = 32
img_size = (224, 224)
train_generator =
train_datagen.flow_from_directory(
    train_dir,
    target_size=img_size,
    batch_size=batch_size,
    class_mode='categorical'
)validation_generator =
validation_datagen.flow_from_directory
(
    validation_dir,
    target_size=img_size,
    batch_size=batch_size,
    class_mode='categorical'
)
base_model =
MobileNetV2(input_shape=(224, 224,
3), include_top=False,
weights='imagenet')
# Freeze the pre-trained layers
for layer in base_model.layers:
    layer.trainable = False
base_model,
tf.keras.layers.Conv2D(filters=32,paddi
ng='same', kernel_size=3,
activation='relu', strides=1),
tf.keras.layers.Dropout(rate=0.5),
tf.keras.layers.Flatten(),
```

```
model.add(layers.Dense(27,
activation='softmax'))
```

```
# Compile the model
model.compile(optimizer='adam',
loss='categorical_crossentropy',
metrics=['accuracy'])
```

Lampiran -16 Kartu Monitoring Bimbingan



KARTU MONITORING BIMBINGAN
 MAHASISWA PROGRAM STUDI TEKNIK INFORMATIKA
 FAKULTAS TEKNIK
 UNIVERSITAS MUHAMMADIYAH PAREPARE

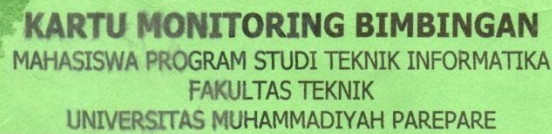
PROPOSAL

MAHASISWA: NUR AZIZAH RAMADANA	Pembimbing I : Ade Hastuty, ST., S.Kom., MT
NIM : 219280039	Pembimbing II : Ahmad Selao, S.T.P., M.Sc
Judul Skripsi : APLIKASI PENERJEMAH HURUF BRAILLE KE TEKS BAHASA INDONESIA BERBASIS ANDROID	

ARAHAN PEMBIMBING I	HARI/TGL & PARAF PEMBIMBING	ARAHAN PEMBIMBING II	HARI/TGL & PARAF PEMBIMBING
Konsultasi 1 Kata Pengantar - ucapan terimakasih kpd Allah. - terlebi dahulu & ortu - Tanda Spasi pada nama - Nama Pembimbing		Konsultasi 1 Kata Pengantar & tugas penelitian / metode	
Konsultasi 2 Format Daftar isi diperbaiki Mesin penerjemah kerangka pikir diperbaiki		Konsultasi 2 Penelitian terdahulu / usulan hasil rumus / algoritma	
Konsultasi 3 Sumber @ tulisan harus dicantumkan		Konsultasi 3 Dasar system (perbaikan)	
Konsultasi 4 Att Seminar Proposal 17/03/2023		Konsultasi 4 Cantumkan contoh perhitungan KNN & nilai piksel gambar	
Konsultasi 5		Konsultasi 5 Ada koreksi (terlampir)	

Perhatian :

- Mahasiswa wajib konsultasi minimal 5 kali
- Kartu ini wajib dibawa oleh mahasiswa disetiap konsultasi dan diisi oleh Pembimbing
- Kartu ini wajib dilampirkan pada laporan skripsi dan menjadi salah satu persyaratan untuk ikut seminar proposal/ujian skripsi
- Kartu ini dicetak di atas kertas karton berwarna hijau muda dan dicetak timbal balik



MAHASISWA : NUR AZIZAH RAMADANA	Pembimbing I : Ade Hastuty,ST.,S.Kom.,MT
NIM : 219280039	Pembimbing II : Ahmad Selao, S.T.P.,M.Sc
Judul Skripsi : APLIKASI PENERJEMAH HURUF BRAILLE ke HURUF LATIN PADA PERANGKAT ANDROID	

Lanjut ke halaman sebelah...

1. Mahasiswa wajib konsultasi minimal 5 kali
2. Kartu ini wajib dibawa oleh mahasiswa disetiap konsultasi dan diisi oleh Pembimbing
3. Kartu ini wajib dilampirkan pada laporan skripsi dan menjadi salah satu persyaratan untuk ikut seminar proposal/ujian skripsi
4. Kartu ini dicetak di atas kertas karton berwarna hijau muda dan dicetak timbal balik

Lampiran -17 Sertifikat Lab Teknik Informatika



SERTIFIKAT

Nomor : 431/PRK/LB-TI/II.3.AU/D/2023

Diberikan Kepada :

Nur Azizah Ramadan

NIM. 219280039

Telah Menyelesaikan

PRAKTIKUM V

Laboratorium Teknik Informatika

Program Studi Teknik Informatika Fakultas Teknik

Universitas Muhammadiyah Parepare

Pada tanggal 16 Januari 2023 - 29 Maret 2023

Parepare, 15 Juni 2023

KETUA PRODI
TEKNIK INFORMATIKA


Maritua S.kom., M.kom
NBM. 1162 680

KEPALA
LABORATORIUM


Ir. Untung Suwardoyo, S.Kom., MT., IPP.
NBM. 1288 973



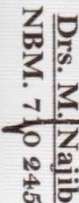
**Nilai Praktikum Laboratorium Teknik Informatika
Fakultas Teknik Universitas Muhammadiyah Parepare Tahun 2023**



MATERI	NILAI ANGKA
PENGOLAHAN CITRA DIGITAL	95
AUGMENTED DAN VIRTUAL REALITY	79,5
MIKROKONTROLER	80
PEMROGRAMAN MOBILE	89
RATA-RATA	85,88
NILAI HURUF	A



Lampiran -18 Sertifikasi Ukom AIK

 LEMBAGA PENGKAJIAN DAN PENGEMBANGAN ISLAM KEMUHAMMADIYAHAN DAN KADER UNIVERSITAS MUHAMMADIYAH PAREPARE 
SERTIFIKAT Nomor: 031/UKOM-AIK/LPPIK-UMPAR/III/2023 Diberikan Kepada NUR AZIZAH RAMADANA Sebagai PESERTA yang Dinyatakan LULUS Pada Ujian Kompetensi Al Islam Kemuhammadiyah (UKOM AIK) Universitas Muhammadiyah Parepare Tahun Akademik 2022/2023 Dengan Predikat Nilai: A / B / C / D / E Parepare, 13 Maret 2023 M / 21 Sya'ban 1444 H Mengetahui,  Ketua LPPIK  Sekretaris LPPIK  Drs. M. Najib La Ady, M.Pd.I  Muh. Makki, S.Ag., M.Ag NBM. 710 245 NBM. 969 421