

LAMPIRAN

Pseudocode *Optical Character Recognition* (OCR)

Kodingan Activity_main.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.com/tools

android:layout_width="match_parent"

android:layout_height="match_parent"

tools:context=".MainActivity">

<ScrollView

android:layout_above="@+id/linear_holder"

android:layout_alignParentTop="true"

android:layout_margin="8dp"

android:layout_width="match_parent"

android:layout_height="match_parent">

<TextView

android:id="@+id/text_data"

android:textSize="22sp"

android:textColor="@color/black"
```

```
android:text="Capture or Choose an image from gallery "
```

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

```
android:layout_height="wrap_content"/>
```

```
</ScrollView>
```

```
<LinearLayout
```

```
android:id="@+id/linear_holder"
```

```
android:layout_alignParentBottom="true"
```

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

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

```
<Button
```

```
android:id="@+id/button_capture"
```

```
android:layout_width="0dp"
```

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

```
android:layout_weight="1"
```

```
android:text="Capture"
```

```
android:layout_margin="8dp"/>
```

```
<Button
```

```
android:visibility="gone"
```

```
android:id="@+id/button_copy"
```

```
android:layout_width="0dp"
```

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

```
    android:layout_weight="1"

    android:text="Copy Text"

    android:layout_margin="8dp"/>

</LinearLayout>

</RelativeLayout>
```

4.4.2 Kodingan Build.gradle(app)

```
plugins {

id 'com.android.application'

}

android {

compileSdk 31

defaultConfig {

applicationId "com.maryani.ocrapp"

minSdk 21

targetSdk 31

versionCode 1

versionName "1.0"

testInstrumentationRunner "androidx.test.runner.AndroidJUnitRunner"

}

buildTypes {
```

```
release {  
  
    minifyEnabled false  
  
    proguardFiles getDefaultProguardFile('proguard-android-optimize.txt'),  
        'proguard-rules.pro'  
    }  
}  
  
compileOptions {  
  
    sourceCompatibility JavaVersion.VERSION_1_8  
  
    targetCompatibility JavaVersion.VERSION_1_8  
    }  
}  
  
dependencies {  
  
    implementation 'androidx.appcompat:appcompat:1.4.2'  
  
    implementation 'com.google.android.material:material:1.6.1'  
  
    implementation 'androidx.constraintlayout:constraintlayout:2.1.4'  
  
    testImplementation 'junit:junit:4.+'  
  
    androidTestImplementation 'androidx.test.ext:junit:1.1.3'  
  
    androidTestImplementation 'androidx.test.espresso:espresso-core:3.4.0'  
  
    implementation 'com.google.android.gms:play-services-vision:20.1.3'  
  
    implementation 'com.theartofdev.edmodo:android-image-cropper:2.8.0'  
    }
```

4.4.3 Kodingan Main.activity.java

```
package com.maryani.ocrapp;

import androidx.annotation.Nullable;

import androidx.appcompat.app.AppCompatActivity;

import androidx.core.app.ActivityCompat;

import androidx.core.content.ContextCompat;

import android.Manifest;

import android.content.ClipData;

import android.content.ClipboardManager;

import android.content.Context;

import android.content.Intent;

import android.content.pm.PackageManager;

import android.graphics.Bitmap;

import android.net.Uri;

import android.os.Bundle;

import android.provider.MediaStore;

import android.util.SparseArray;

import android.view.View;

import android.widget.Button;

import android.widget.TextView;

import android.widget.Toast;
```

```

import com.google.android.gms.vision.Frame;

import com.google.android.gms.vision.text.TextBlock;

import com.google.android.gms.vision.text.TextRecognizer;

import com.theartofdev.edmodo.cropper.CropImage;

import com.theartofdev.edmodo.cropper.CropImageView;

import java.io.IOException;

public class MainActivity extends AppCompatActivity {

    Button button_capture, button_copy;

    TextView textview_data;

    Bitmap bitmap;

    private static final int REQUEST_CAMERA_CODE = 100;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        button_capture = findViewById(R.id.button_capture);

        button_copy = findViewById(R.id.button_copy);

        textview_data = findViewById(R.id.text_data);

        if (ContextCompat.checkSelfPermission(MainActivity.this,
Manifest.permission.CAMERA) !=
PackageManager.PERMISSION_GRANTED){

            ActivityCompat.requestPermissions(MainActivity.this, new String[]{

```

```
Manifest.permission.CAMERA

}, REQUEST_CAMERA_CODE);

    }

button_capture.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

CropImage.activity().setGuidelines(CropImageView.Guidelines.ON).start(MainActivity.this);

    }

});

button_copy.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

String scanned_text = textview_data.getText().toString();

copyToClipboard(scanned_text);

    }

});

@Override
```

```

protected void onActivityResult(int requestCode, int resultCode, @Nullable
Intent data) {

super.onActivityResult(requestCode, resultCode, data);

if (requestCode ==
CropImage.CROP_IMAGE_ACTIVITY_REQUEST_CODE){

CropImage.ActivityResult result = CropImage.getActivityResult(data);

if (resultCode == RESULT_OK){

Uri resultUri = result.getUri();

try {

bitmap = MediaStore.Images.Media.getBitmap(this.getContentResolver(),
resultUri);

getTextFromImage(bitmap);

} catch (IOException e) {

e.printStackTrace();

}

}

}

}

private void getTextFromImage(Bitmap bitmap){

TextRecognizer recognizer = new TextRecognizer.Builder(this).build();

if (!recognizer.isOperational()){

```



```

Toast.makeText(MainActivity.this, "Error Occurred!!!",
Toast.LENGTH_SHORT).show();

    }

else{

Frame frame = new Frame.Builder().setBitmap(bitmap).build();

SparseArray<TextBlock> textBlockSparseArray = recognizer.detect(frame);

StringBuilder stringBuilder = new StringBuilder();

for (int i=0; i<textBlockSparseArray.size();i++){

TextBlock textBlock = textBlockSparseArray.valueAt(i);

stringBuilder.append(textBlock.getValue());

stringBuilder.append("\n");

    }

textView_data.setText(stringBuilder.toString());

button_capture.setText("Retake");

button_copy.setVisibility(View.VISIBLE);

    }

}

private void copyToClipboard(String text){

ClipboardManager clipboard = (ClipboardManager)
getSystemService(Context.CLIPBOARD_SERVICE);

ClipData clip = ClipData.newPlainText("Copied data", text);

clipboard.setPrimaryClip(clip);

```

```

Toast.makeText(MainActivity.this, "Copied to clipboard!",
Toast.LENGTH_SHORT).show();

    }
}

```

Kodingan AndroidManifest.xml

```

<?xml version="1.0" encoding="utf-8"?>

<manifest xmlns:android="http://schemas.android.com/apk/res/android"
package="com.maryani.ocrapp">

    <uses-permission android:name="android.permission.CAMERA"/>

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.OcrApp">
        <activity
            android:name=".MainActivity"
            android:exported="true">

```

```
<intent-filter>  
  
<action android:name="android.intent.action.MAIN" />  
  
<category android:name="android.intent.category.LAUNCHER" />  
  
</intent-filter>  
  
</activity>  
  
<activity  
android:name="com.theartofdev.edmodo.cropper.CropImageActivity"/>  
  
</application>  
  
</manifest>
```