#### Toast.makeText(MainActivity.this, "Please enter text to Androidmanifest.xml speak", Toast.LENGTH\_SHORT).show(); } }); buttonListen.setOnClickListener(v -> { xmlns:android="http://schemas.android.com/apk/res/andr speechToTextHelper.startSpeechRecognition();}); buttonClear.setOnClickListener(v -> { package="com.example.exe05"> editText.setText(""); // Clear the EditText <uses-permission Toast.makeText(MainActivity.this, "Text cleared", android:name="android.permission.INTERNET" /> Toast.LENGTH\_SHORT).show();});} <uses-permission @Override ,protected void onDestroy() { android:name="android.permission.RECORD\_AUDIO" super.onDestroy(); /> <uses-permission textToSpeechHelper.shutdown(); android:name="android.permission.WRITE\_EXTERNA" speechToTextHelper.shutdown(); ,} } L\_STORAGE" /> <uses-permission android:name="android.permission.READ\_EXTERNAL SpeechToTextHelper \_STORAGE" /> public class SpeechToTextHelper implements <application android:allowBackup="true" android:icon="@mipmap/ic\_launcher" RecognitionListener { private SpeechRecognizer speechRecognizer; android:label="@string/app\_name" android:roundIcon="@mipmap/ic\_launcher\_round" private OnSpeechRecognitionListener listener; android:supportsRtl="true" public void initSpeechToText(Context context) { android:theme="@style/AppTheme"> speechRecognizer = <activity android:name=".MainActivity" SpeechRecognizer.createSpeechRecognizer(context); android:exported="true"> <intent-filter> speechRecognizer.setRecognitionListener(this); } <action android:name="android.intent.action.MAIN" /> public void startSpeechRecognition() { <category Intent intent = new android:name="android.intent.category.LAUNCHER" /> Intent(RecognizerIntent.ACTION\_RECOGNIZE\_SPEE </intent-filter> </activity> </application> </manifest> intent.putExtra(RecognizerIntent.EXTRA\_LANGUAGE MODEL. MainActivity.java RecognizerIntent.LANGUAGE MODEL FREE FORM package com.example.exe05; import android.os.Bundle; intent.putExtra(RecognizerIntent.EXTRA\_LANGUAGE, import android.view.View; Locale.getDefault()); import android.widget.Button; speechRecognizer.startListening(intent); } import android.widget.EditText; public void import android.widget.Toast; setOnSpeechRecognitionListener(OnSpeechRecognition import androidx.appcompat.app.AppCompatActivity; Listener listener) { public class MainActivity extends AppCompatActivity { this.listener = listener: private TextToSpeechHelper textToSpeechHelper; @Override public void onResults(Bundle results) { private SpeechToTextHelper speechToTextHelper; ArrayList<String> recognizedText = private EditText editText; results.getStringArrayList(SpeechRecognizer.RESULTS @Override protected void onCreate(Bundle RECOGNITION); savedInstanceState) { if (listener != null && recognizedText != null && super.onCreate(savedInstanceState); !recognizedText.isEmpty()) { setContentView(R.layout.activity\_main); listener.onSpeechRecognized(recognizedText.get(0)); } } editText = findViewById(R.id.editText); Button buttonSpeak = findViewById(R.id.buttonSpeak); Button buttonListen = findViewById(R.id.buttonListen); $Button\ buttonClear = findViewById(R.id.buttonClear);$ **TextToSpeechHelper** textToSpeechHelper = new TextToSpeechHelper(); package com.example.exe05; textToSpeechHelper.initTextToSpeech(this); import android.content.Context; speechToTextHelper = new SpeechToTextHelper(); import android.speech.tts.TextToSpeech; import android.util.Log; speechToTextHelper.initSpeechToText(this); speechToTextHelper.setOnSpeechRecognitionListener (rimport java.util.Locale; ecognizedText -> { public class TextToSpeechHelper { editText.setText(recognizedText); private TextToSpeech textToSpeech; textToSpeechHelper.speakText("You said: " + public void initTextToSpeech(Context context) { textToSpeech = new TextToSpeech(context, status -> { recognizedText); }); buttonSpeak.setOnClickListener(v -> { if (status == TextToSpeech.SUCCESS) { int result = String text = editText.getText().toString(); textToSpeech.setLanguage(Locale.getDefault()); if (!text.isEmpty()) { if (result == TextToSpeech.LANG\_MISSING\_DATA || textToSpeechHelper.speakText(text); result == TextToSpeech.LANG\_NOT\_SUPPORTED) { } else { Log.e("TTS", "Language not supported"); } } else {

```
Log.e("TTS", "Initialization failed");}});}
public void speakText(String text) {
if (text != null && !text.isEmpty()) {
Log.d("TTS", "Speaking text: " + text);
textToSpeech.speak(text,
TextToSpeech.QUEUE_FLUSH, null, null);
} else {
Log.e("TTS", "Text is empty or null"); } }
public void shutdown() {
if (textToSpeech != null) {
textToSpeech.stop();
textToSpeech.shutdown();}}}
Activity_Main.xml
<?xml version="1.0" encoding="utf-8"?>
```

<ScrollView xmlns:android="http://schemas.android.com/apk/res/andr xmlns:app="http://schemas.android.com/apk/res-auto" android:layout\_width="match\_parent" android:layout\_height="match\_parent" android:background="@color/colorBackground"> <LinearLayout android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:orientation="vertical" android:padding="16dp">

<!-- Caption TextView --> <TextView android:id="@+id/captionTextView" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:text="MAD exe05" android:textSize="24sp" android:textColor="@color/colorPrimary" android:textStyle="bold" android:gravity="center" android:layout\_marginBottom="16dp" />

# <EditText android:id="@+id/editText" android:layout\_width="match\_parent" android:layout\_height="wrap\_content"

android:hint="Enter text here" style="@style/EditTextStyle"/> <!-- Horizontal LinearLayout for buttons --> <LinearLayout android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:orientation="horizontal" android:gravity="center" android:layout\_marginTop="16dp">

#### <Button

android:id="@+id/buttonSpeak" android:layout\_width="0dp" android:layout\_height="wrap\_content" android:text="Speak" style="@style/SpeakButtonStyle" android:layout\_weight="1" />

### <Button

android:id="@+id/buttonListen" android:layout\_width="0dp" android:layout\_height="wrap\_content" android:text="Listen" style="@style/ListenButtonStyle" android:layout\_weight="1"/> </LinearLayout>

#### <Button

android:id="@+id/buttonClear" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:text="Clear" style="@style/ClearButtonStyle" android:layout\_marginTop="16dp" />

## <TextView

android:id="@+id/footer\_text" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="BY YOGESWARAN S" android:textSize="30sp" android:textColor="@android:color/black" android:fontFamily="cursive" android:layout\_gravity="bottom|end" android:layout\_marginBottom="32dp" android:layout\_marginEnd="16dp" /> </LinearLayout> </ScrollView>

