

Lab 5

CSE 162 - Mobile Computing - Lab

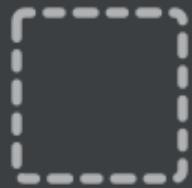
Templates

Phone and Tablet

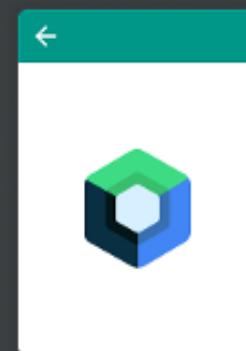
Wear OS

Android TV

Automotive



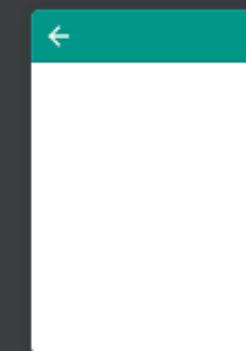
No Activity



Empty Compose Activity



Basic Activity



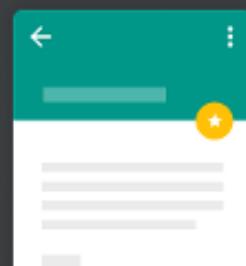
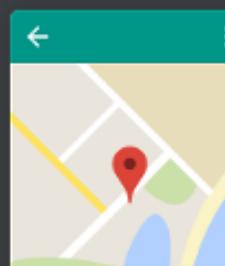
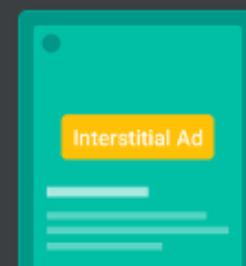
Empty Activity



Bottom Navigation Activity



Fullscreen Activity



Previous

Next

Cancel

Finish



New Project



Empty Activity

Creates a new empty activity

Name

Lab5

Package name

com.yangqingsun.lab5

Save location

D:\Projects\AndroidStudioProjects\Lab5



Language

Java

Minimum SDK

API 30: Android 11.0 (R)



Your app will run on approximately 24.3% of devices.

[Help me choose](#)

Use legacy android.support libraries

Using legacy android.support libraries will prevent you from using
the latest Play Services and Jetpack libraries

Previous

Next

Cancel

Finish

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help Lab5 - MainActivity.java [Lab5.app]

Lab5 > app > src > main > java > com > yangqingsun > lab5 > MainActivity

activity_main.xml MainActivity.java

```
1 package com.yangqingsun.lab5;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     @Override
8     protected void onCreate(Bundle savedInstanceState) {
9         super.onCreate(savedInstanceState);
10        setContentView(R.layout.activity_main);
11    }
12}
```

A new project is created.

Project Manager Resource Manager Project

Android Manifests Java com.yangqingsun.lab5 MainActivity androidTest test res Gradle Scripts

Resource Manager

Gradle Device Manager

Build Variants Favorites Structure

Build TODO Problems Terminal Logcat Profiler App Inspection Event Log Layout Inspector

Project Lab5 is using the following SDK location when running Gradle: /C:/Program Files/Android/Android Studio/ire // Using different SDK locations on different processes might cause Gradle to spawn multiple daemons, for example, by executing Gradle tasks from a terminal while using ... (moments ago)

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help Lab5 - AndroidManifest.xml [Lab5.app]

Lab5 > app > src > main > AndroidManifest.xml

Project Manager

Resource Manager

Gradle

Device Manager

Android

app

manifests

AndroidManifest.xml

java

com.yangqingsun.lab5

MainActivity

com.yangqingsun.lab5 (androidTest)

com.yangqingsun.lab5 (test)

res

drawable

layout

activity_main.xml

mipmap

values

colors.xml

strings.xml

themes (2)

Gradle Scripts

activity_main.xml

MainActivity.java

AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.yangqingsun.lab5">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="Lab5"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Lab5">
        <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>
    </application>

</manifest>
```

Change the content of **AndroidManifest.xml** first.

Text Merged Manifest

TODO Problems Terminal Logcat Profiler App Inspection Event Log Layout Inspector

Project Lab5 is using the following SDK location when running Gradle: C:/Program Files/Android/Android Studio/ire // Using different SDK locations on different processes might cause Gradle to spawn multiple daemons, for example, by executing Gradle tasks from a terminal while us... (a minute ago)

1:1 CRIE_UITE-8 4 spaces

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.yangqingsun.lab5">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="Calendar by Y.Sun"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Lab5">
        <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>
    </application>
</manifest>
```

manifest

Text Merged Manifest

Project

app

- manifests
- AndroidManifest.xml

java

- com.yangqingsun.lab5
- MainActivity

com.yangqingsun.lab5 (androidTest)

com.yangqingsun.lab5 (test)

java (generated)

res

- drawable
- layout
- activity_main.xml

mipmap

values

- colors.xml
- strings.xml

themes (2)

res (generated)

Gradle Scripts

activity_main.xml < MainActivity.java < AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.yangqingsun.lab5">

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

    <queries>
        <intent>
            <action android:name="android.intent.action.TTS_SERVICE" />
        </intent>
    </queries>

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="Calendar by Y.Sun"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Lab5">
        <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>
    </application>

</manifest>
```

manifest

Text Merged Manifest

Project Manager

Resource Manager

Project

Gradle

Device Manager

Activity Main XML

Main Activity Java

AndroidManifest XML

strings XML

Edit translations for all locales in the translations editor.

1 <resources>
2 <string name="app_name">Lab5</string>
3 </resources>

Open editor Hide notification

res

drawable

layout

activity_main.xml

mipmap

values

colors.xml

strings.xml

themes (2)

Gradle Scripts

Change the content of strings.xml file.

resources

Project Manager

Resource Manager

Project

app

- manifests
- java
 - com.yangqingsun.lab5
 - MainActivity
- > com.yangqingsun.lab5 (androidTest)
- > com.yangqingsun.lab5 (test)

res

- drawable
- layout
 - activity_main.xml
- mipmap
- values
 - colors.xml
 - strings.xml
- themes (2)

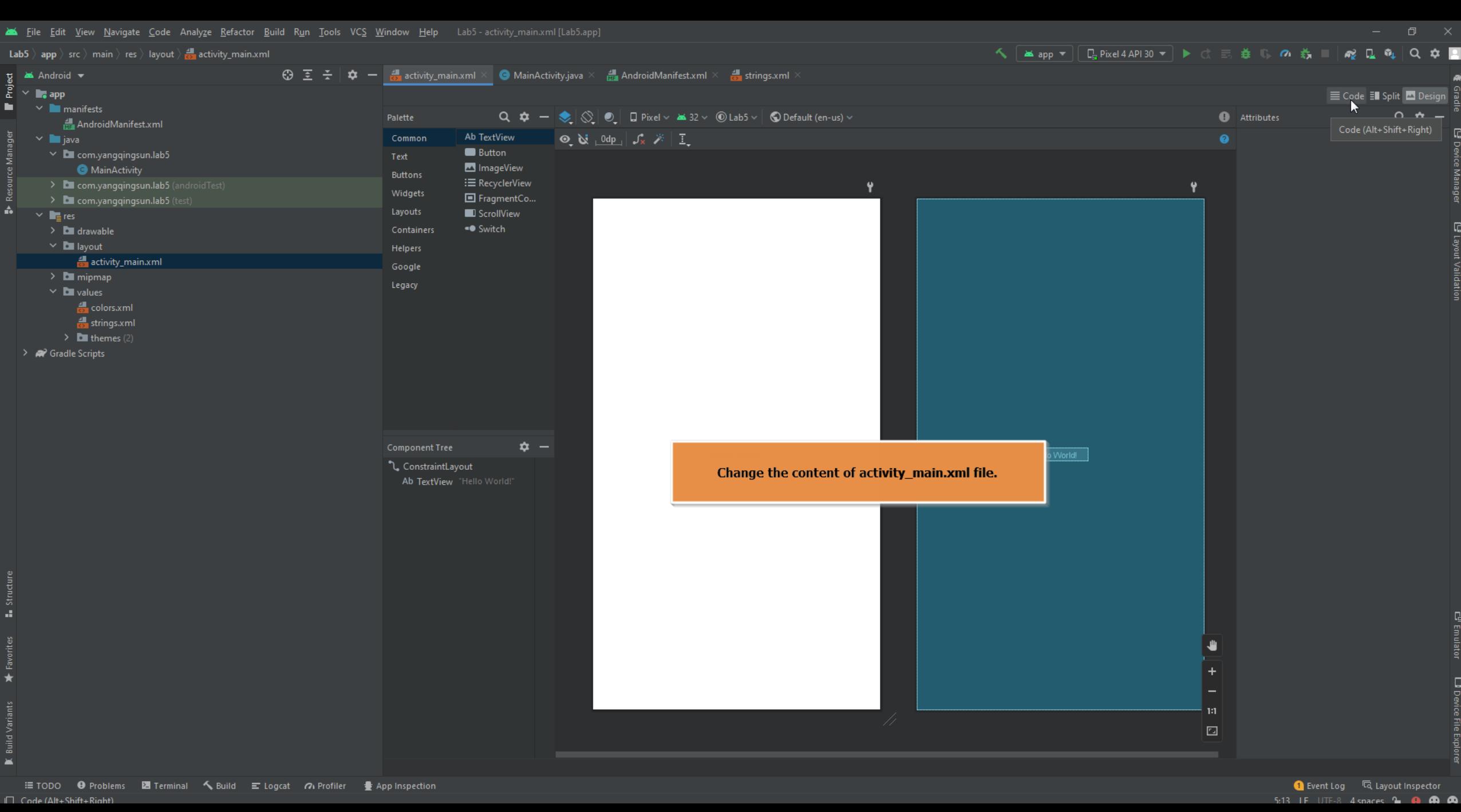
Gradle Scripts

activity_main.xml MainActivity.java AndroidManifest.xml strings.xml

Edit translations for all locales in the translations editor.

```
<resources>
    <string name="app_name">Calendar by Y.Sun</string>
    <string name="emergency_number">3456435</string>
    <string name="button">Speech\nRecognition</string>
</resources>
```

resources



File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help Lab5 - activity_main.xml [Lab5.app]

Lab5 > app > src > main > res > layout > activity_main.xml

activity_main.xml MainActivity.java AndroidManifest.xml strings.xml

Project Manager

Project

app

- manifests
- java
- com.yangqingsun.lab5
- MainActivity
- com.yangqingsun.lab5 (androidTest)
- com.yangqingsun.lab5 (test)

res

- drawable
- layout
- activity_main.xml

mipmap

values

- colors.xml
- strings.xml

themes (2)

Gradle Scripts

Code Split Design

Gradle Device Manager Layout Validation

Resource Manager

Android

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">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

Change the content of activity_main.xml file.

TODO Problems Terminal Logcat Profiler App Inspection Event Log Layout Inspector

Project Lab5 is using the following SDK location when running Gradle: C:/Program Files/Android/Android Studio/ire // Using different SDK locations on different processes might cause Gradle to spawn multiple daemons, for example, by executing Gradle tasks from a terminal while using... (3 minutes ago)

1:1 L E UTE-8 4 spaces

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help Lab5 - activity_main.xml [Lab5.app]

Lab5 > app > src > main > res > layout > activity_main.xml

activity_main.xml MainActivity.java AndroidManifest.xml strings.xml

Project Manager

Project

app

- manifests
- java
- com.yangqingsun.lab5
- MainActivity
- com.yangqingsun.lab5 (androidTest)
- com.yangqingsun.lab5 (test)
- res
- drawable
- layout
- activity_main.xml
- mipmap
- values
- colors.xml
- strings.xml
- themes (2)

Gradle Scripts

Code Split Design

Resource Manager

Gradle

Device Manager

Layout Validation

Emulator

Device File Explorer

Structure

Favorites

Build Variants

TODO Problems Terminal Logcat Profiler App Inspection Event Log Layout Inspector

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

<LinearLayout

 xmlns:android="http://schemas.android.com/apk/res/android"
 android:layout_width="match_parent"
 android:layout_height="match_parent"
 android:gravity="center"
 android:orientation="vertical">

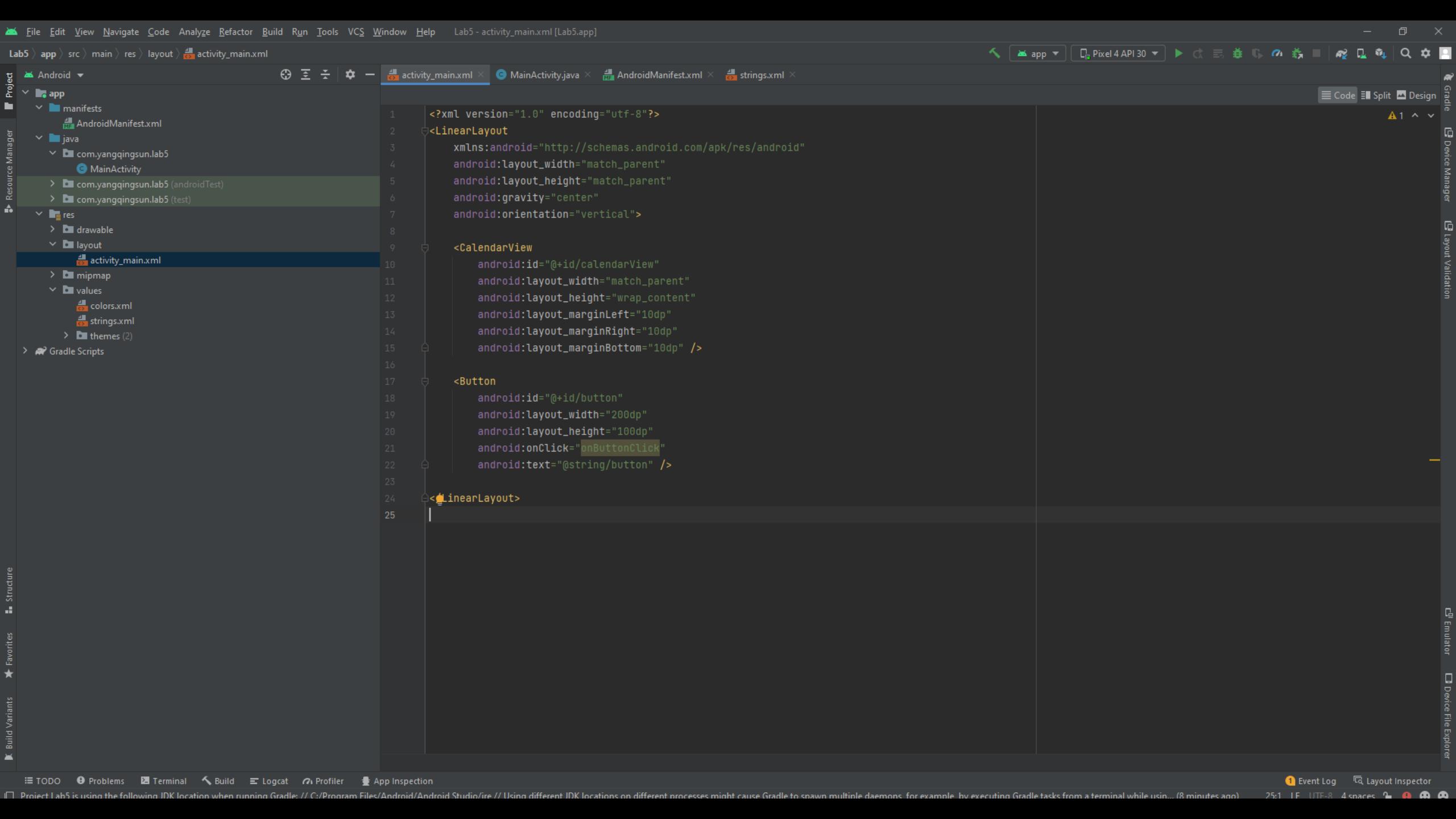
<CalendarView
 android:id="@+id/calendarView"
 android:layout_width="match_parent"
 android:layout_height="wrap_content"
 android:layout_marginLeft="10dp"
 android:layout_marginRight="10dp"
 android:layout_marginBottom="10dp" />

<Button
 android:id="@+id/button"
 android:layout_width="200dp"
 android:layout_height="100dp"
 android:onClick="onButtonClick"
 android:text="@string/button" />

<LinearLayout>

Project Lab5 is using the following SDK location when running Gradle: // C:/Program Files/Android/Android Studio/ire // Using different SDK locations on different processes might cause Gradle to spawn multiple daemons, for example, by executing Gradle tasks from a terminal while usin... (8 minutes ago)

25:1 | F UTE-8 4 spaces



File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help Lab5 - MainActivity.java [Lab5.app]

Lab5 > app > src > main > java > com > yangqingsun > lab5 > MainActivity

activity_main.xml MainActivity.java AndroidManifest.xml strings.xml

```
1 package com.yangqingsun.lab5;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     @Override
8     protected void onCreate(Bundle savedInstanceState) {
9         super.onCreate(savedInstanceState);
10        setContentView(R.layout.activity_main);
11    }
12
13 }
14
```

Change the content of MainActivity.java file.

Project Manager Resource Manager Project Structure Favorites Build Variants

Gradle Device Manager

TODO Problems Terminal Logcat Profiler App Inspection Event Log Layout Inspector

Project Lab5 is using the following SDK location when running Gradle: /C:/Program Files/Android/Android Studio/ire // Using different SDK locations on different processes might cause Gradle to spawn multiple daemons, for example, by executing Gradle tasks from a terminal while using... (8 minutes ago)

142 L F UTE-8 4 spaces

Project Manager

Project

- app
 - manifests
 - AndroidManifest.xml
 - java
 - com.yangqingsun.lab5
 - MainActivity
 - com.yangqingsun.lab5 (androidTest)
 - com.yangqingsun.lab5 (test)
 - java (generated)
 - res
 - drawable
 - layout
 - activity_main.xml
 - mipmap
 - values
 - colors.xml
 - strings.xml
 - themes (2)
 - res (generated)
- Gradle Scripts

```
1 package com.yangqingsun.lab5;
2
3 import android.Manifest;
4 import android.content.Intent;
5 import android.content.pm.PackageManager;
6 import android.net.Uri;
7 import android.os.Build;
8 import android.os.Bundle;
9
10 import android.speech.RecognizerIntent;
11 import android.speech.tts.TextToSpeech;
12 import android.util.Log;
13 import android.view.View;
14 import android.widget.Button;
15 import android.widget.CalendarView;
16 import android.widget.Toast;
17
18 import androidx.annotation.NonNull;
19 import androidx.annotation.RequiresApi;
20 import androidx.appcompat.app.AppCompatActivity;
21 import androidx.core.app.ActivityCompat;
22 import androidx.core.content.ContextCompat;
23
24 import java.util.Date;
25 import java.util.List;
26 import java.util.Locale;
27
28
29 public class MainActivity extends AppCompatActivity {
30
31     private CalendarView calendarView;
32     private Button speechRecognitionButton;
33     private static final int REQUEST_PHONE_CALL = 1;
34
35     TextToSpeech tts;
36
37     @Override
38     protected void onCreate(Bundle savedInstanceState) {
39         super.onCreate(savedInstanceState);
40         setContentView(R.layout.activity_main);
41     }
42 }
```

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help Lab5 - MainActivity.java [Lab5.app]

Lab5 > app > src > main > java > com > yangqingsun > lab5 > MainActivity

activity_main.xml MainActivity.java AndroidManifest.xml strings.xml

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

if (ContextCompat.checkSelfPermission(context: MainActivity.this,
    Manifest.permission.CALL_PHONE) != PackageManager.PERMISSION_GRANTED) {
    ActivityCompat.requestPermissions(activity: MainActivity.this,
        new String[]{Manifest.permission.CALL_PHONE}, REQUEST_PHONE_CALL);
}

calendarView = findViewById(R.id.calendarView);
speechRecognitionButton = findViewById(R.id.button);

tts = new TextToSpeech(context: this, new TextToSpeech.OnInitListener() {
    @Override
    public void onInit(int status) {
        if(status == TextToSpeech.SUCCESS){
            int result = tts.setLanguage(Locale.US);
            if(result != TextToSpeech.LANG_AVAILABLE &&
                result != TextToSpeech.LANG_COUNTRY_AVAILABLE){
                Toast.makeText(context: MainActivity.this, text: "Non-supported language!",
                    Toast.LENGTH_SHORT).show();
            }
        }
    }
});

if (calendarView != null) {
    calendarView.setOnDateChangeListener(new CalendarView.OnDateChangeListener() {
        @Override
        public void onSelectedDayChange(@NotNull CalendarView view,
            int year, int month, int dayOfMonth) {
            // Note that months are indexed from 0.
            String monthName = (String)android.text.format.DateFormat.format(
                inFormat: "MMMM", new Date());
            String msg = "Selected date is " + monthName + " " + dayOfMonth + ", " + year;
            Toast.makeText(context: MainActivity.this, msg, Toast.LENGTH_SHORT).show();
        }
    });
}

displaySpeechRecognizer();
```

Resource Manager Project Manager

Gradle Device Manager

Structure Favorites Build Variants

Device File Explorer Emulator

Run TODO Problems Terminal Logcat Build Profiler App Inspection Event Log Layout Inspector

Launch succeeded (11 minutes ago) 161:1 LF UTF-8 4 spaces

The screenshot shows the Android Studio interface with the following details:

- File Bar:** File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
- Project Bar:** Lab5 - MainActivity.java [Lab5.app]
- Toolbars:** Standard toolbar with icons for Run, Stop, Refresh, and others.
- Left Sidebar:** Project Manager, Resource Manager, Structure, Favorites, Build Variants.
- Central Area:** Editor showing `MainActivity.java`. The code handles speech recognition, including an `onDestroy` override to shutdown the TTS and a `onActivityResult` override to process results. It also includes logic to check the current date.
- Bottom Navigation:** Run, TODO, Problems, Terminal, Logcat, Build, Profiler, App Inspection.
- Bottom Status:** Launch succeeded (12 minutes ago), Event Log (2 entries), Layout Inspector, 161:1 LF, UTF-8, 4 spaces.

```
    displaySpeechRecognizer();  
}  
  
@Override  
protected void onDestroy() {  
    super.onDestroy();  
    if(tts != null){  
        tts.shutdown();  
    }  
}  
  
private static final int SPEECH_REQUEST_CODE = 0;  
  
// Create an intent that can start the Speech Recognizer activity  
private void displaySpeechRecognizer(){  
    Intent intent = new Intent(RecognizerIntent.ACTION_RECOGNIZE_SPEECH);  
    intent.putExtra(RecognizerIntent.EXTRA_LANGUAGE_MODEL,  
        RecognizerIntent.LANGUAGE_MODEL_FREE_FORM);  
    // This starts the activity and populates the intent with the speech text.  
    startActivityForResult(intent, SPEECH_REQUEST_CODE);  
}  
  
public void onButtonClick(View view) { displaySpeechRecognizer(); }  
  
// This callback is invoked when the Speech Recognizer returns.  
// This is where you process the intent and extract the speech text from the intent.  
@RequiresApi(api = Build.VERSION_CODES.O)  
@Override  
protected void onActivityResult(int requestCode, int resultCode, Intent data) {  
    if (requestCode == SPEECH_REQUEST_CODE && resultCode == RESULT_OK) {  
        List<String> results = data.getStringArrayListExtra(  
            RecognizerIntent.EXTRA_RESULTS);  
        String spokenText = results.get(0);  
  
        // Do something with spokenText.  
  
        if (spokenText.equals("what day is today")){  
            long unixTime = System.currentTimeMillis();  
            calendarview.setDate(unixTime);  
            String monthName = (String)android.text.format.DateFormat.format(  
                inFormat: "MMMM", new Date());  
        }  
    }  
}
```

The screenshot shows the Android Studio interface with the project 'Lab5' open. The main window displays the code for `MainActivity.java`. The code handles various speech-to-text commands like 'what day is tomorrow' and 'call emergency'. It uses `Intent.ACTION_CALL` to start an activity for making a call. The code also includes logic for displaying a toast message and handling activity results.

```
inFormat: "MMMM", new Date());
String day=(String)android.text.format.DateFormat.format(
    inFormat: "d", new Date());
String year = (String)android.text.format.DateFormat.format(
    inFormat: "yyyy", new Date());
String text = "today is "+monthName+" "+day+ ' '+year;
tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech");
Log.i(tag: "TextToSpeech", msg: "tts");

if (spokenText.equals("what day is tomorrow")){
    long unixTime = System.currentTimeMillis();
    calendarView.setDate(unixTime+86400000);
    String monthName = (String)android.text.format.DateFormat.format(
        inFormat: "MMMM", calendarView.getDate());
    String day=(String)android.text.format.DateFormat.format(
        inFormat: "d", calendarView.getDate());
    String year = (String)android.text.format.DateFormat.format(
        inFormat: "yyyy", calendarView.getDate());
    String text = "tomorrow is "+monthName+" "+day+ ' '+year;
    tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech");
}

if (results.get(0).equals("call emergency")){
    StringBuilder sb=new StringBuilder();
    for (int i=1;i<results.size();i++){
        sb.append(results.get(i));
    }
    Intent callIntent = new Intent(Intent.ACTION_CALL,
        Uri.parse("tel:"+R.string.emergency_number));
    startActivity(callIntent);

    Toast.makeText(context: MainActivity.this, sb.toString(), Toast.LENGTH_SHORT).show();
}

super.onActivityResult(requestCode, resultCode, data);
}
```

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help Lab5 - MainActivity.java [Lab5.app]

Lab5 > app > src > main > java > com > yangqingsun > lab5 > MainActivity

Run 'app' Shift+F10

Run the app in an emulator of API 30 or 31.

```
String text = "today is "+monthName+" "+day+" "+year;
tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "utterance");
Log.i(tag: "TextToSpeech", msg: "tts");

if (spokenText.equals("what day is tomorrow")){
    long unixTime = System.currentTimeMillis();
    calendarView.setDate(unixTime+86400000);
    String monthName = (String)android.text.format.DateFormat.format(
        inFormat: "MMMM", calendarView.getDate());
    String day=(String)android.text.format.DateFormat.format(
        inFormat: "d", calendarView.getDate());
    String year = (String)android.text.format.DateFormat.format(
        inFormat: "yyyy", calendarView.getDate());
    String text = "tomorrow is "+monthName+" "+day+" "+year;
    tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech");
}

if (results.get(0).equals("call emergency")){
    StringBuilder sb=new StringBuilder();
    for (int i=1;i<results.size();i++){
        sb.append(results.get(i));
    }
    Intent callIntent = new Intent(Intent.ACTION_CALL,
        Uri.parse("tel:"+R.string.emergency_number));
    startActivity(callIntent);

    Toast.makeText(context: MainActivity.this, sb.toString(), Toast.LENGTH_SHORT).show();
}

super.onActivityResult(requestCode, resultCode, data);
}
```

Project Manager

Resource Manager

Structure

Favorites

Build Variants

Run selected configuration

Run TODO Problems Terminal Logcat Build Profiler App Inspection

Event Log Layout Inspector

161:1 LF UTF-8 4 spaces

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help Lab5 - MainActivity.java [Lab5.app]

Lab5 > app > src > main > java > com > yangqingsun > lab5 > MainActivity

Emulator: Pixel 4 API 30

Project Manager

Resource Manager

Gradle

Device Manager

Android

activity_main.xml

MainActivity.java

AndroidManifest.xml

strings.xml

Emulator: Pixel 4 API 30

126 String text = "today is "+monthName+" "+day+" "+year; ▲ 5 ^ v
127 tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech")
128 Log.i(tag: "TextToSpeech", msg: "tts");
129 }

130 if (spokenText.equals("what day is tomorrow")){
131 long unixTime = System.currentTimeMillis();
132 calendarView.setDate(unixTime+86400000);
133 String monthName = (String)android.text.format.DateFormat.format(
134 inFormat: "MMMM", calendarView.getDate());
135 String day=(String)android.text.format.DateFormat.format(
136 inFormat: "d", calendarView.getDate());
137 String year = (String)android.text.format.DateFormat.format(
138 inFormat: "yyyy", calendarView.getDate());
139 String text = "tomorrow is "+monthName+" "+day+" "+year;
140 tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech")
141 }

142 if (results.get(0).equals("call emergency")){
143 StringBuilder sb=new StringBuilder();
144 for (int i=1;i<results.size();i++){
145 sb.append(results.get(i));
146 }
147 Intent callIntent = new Intent(Intent.ACTION_CALL,
148 Uri.parse("tel:"+R.string.emergency_number));
149 startActivity(callIntent);
150
151 Toast.makeText(context: MainActivity.this, sb.toString(), Toast.LENGTH_SHORT)
152 }
153 }
154 super.onActivityResult(requestCode, resultCode, data);
155 }
156 }
157 }
158 }
159 }
160 }
161 }

Launch succeeded

Run TODO Problems Terminal Build Profiler App Inspection

Launch succeeded (moments ago)

12:07

Calendar by Y.Sun

Google

Try saying something

English (United States)

SPEECH RECOGNITION

Event Log Layout Inspector

161:1 LF UTF-8 4 spaces

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help Lab5 - MainActivity.java [Lab5.app]

Lab5 > app > src > main > java > com > yangqingsun > lab5 > MainActivity

Emulator: Pixel 4 API 30

Project Manager

Resource Manager

Gradle

Device Manager

Android

activity_main.xml MainActivity.java AndroidManifest.xml strings.xml

String text = "today is "+monthName+" "+day+" "+year; tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech") Log.i(tag: "TextToSpeech", msg: "tts"); }

if (spokenText.equals("what day is tomorrow")){ long unixTime = System.currentTimeMillis(); calendarView.setDate(unixTime+86400000); String monthName = (String)android.text.format.DateFormat.format(inFormat: "MMMM", calendarView.getDate()); String day=(String)android.text.format.DateFormat.format(inFormat: "d", calendarView.getDate()); String year = (String)android.text.format.DateFormat.format(inFormat: "yyyy", calendarView.getDate()); String text = "tomorrow is "+monthName+" "+day+" "+year; tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech") }

if (results.get(0).equals("call emergency")){ StringBuilder sb=new StringBuilder(); for (int i=1;i<results.size();i++){ sb.append(results.get(i)); } Intent callIntent = new Intent(Intent.ACTION_CALL, Uri.parse("tel:"+R.string.emergency_number)); startActivity(callIntent); Toast.makeText(context: MainActivity.this, sb.toString(), Toast.LENGTH_SHORT) }

super.onActivityResult(requestCode, resultCode, data); }

Launch succeeded

Run TODO Problems Terminal Build Profiler App Inspection Show extended controls

Emulator: Pixel 4 API 30

Extended Controls

12:07 Calendar by Y.Sun

Google

Didn't catch that. Try speaking again.

Try again

English (United States)

SPEECH RECOGNITION

161:1 LF UTF-8 4 spaces

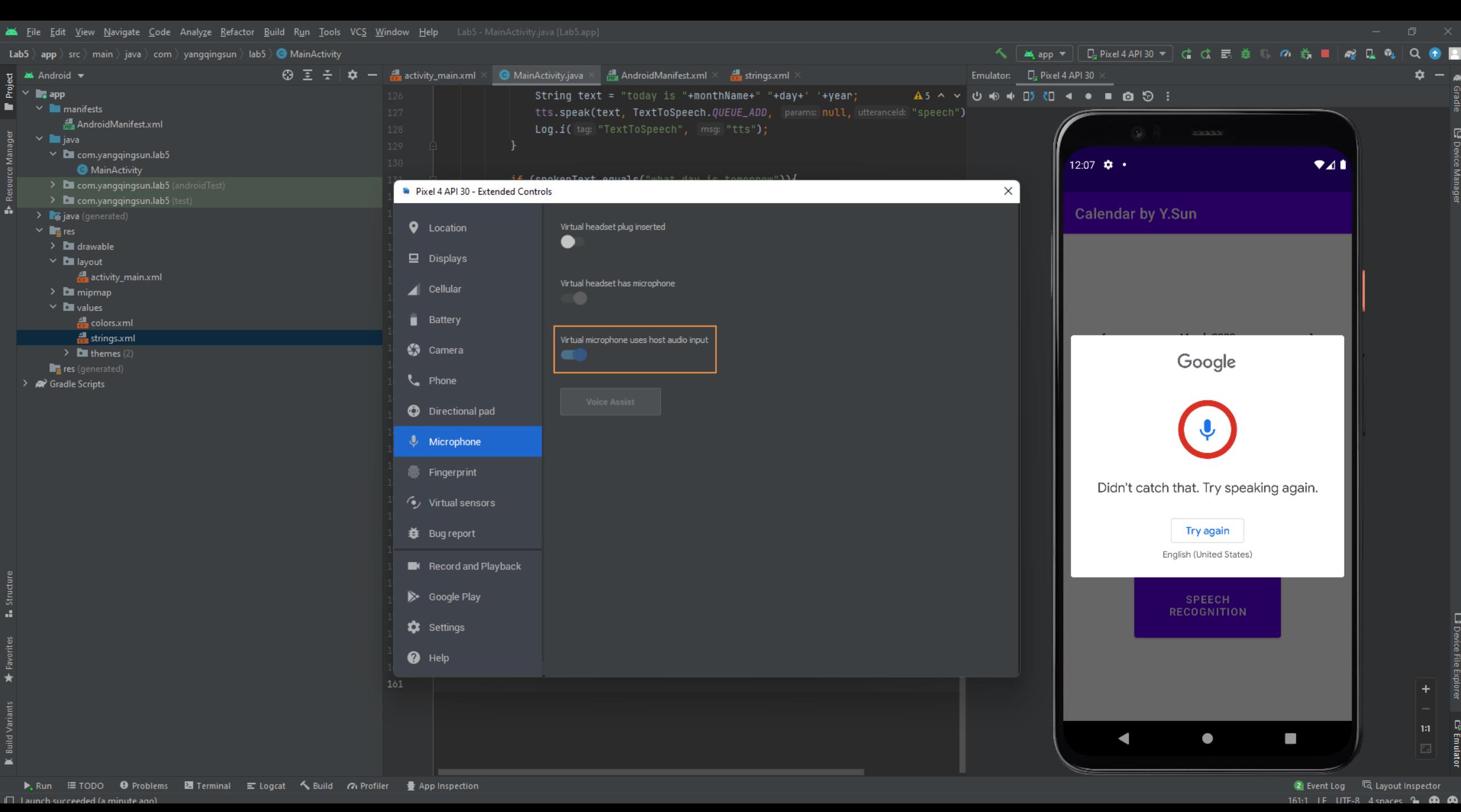
Event Log Layout Inspector

+

1:1

Device File Explorer

Emulator



File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help Lab5 - MainActivity.java [Lab5.app]

Lab5 > app > src > main > java > com > yangqingsun > lab5 > MainActivity

Emulator: Pixel 4 API 30

Project Manager

Resource Manager

Gradle

Device Manager

Android

activity_main.xml

MainActivity.java

AndroidManifest.xml

strings.xml

Emulator: Pixel 4 API 30

126 String text = "today is "+monthName+" "+day+" "+year; ▲ 5 ^ v
127 tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech")
128 Log.i(tag: "TextToSpeech", msg: "tts");
129 }

130 if (spokenText.equals("what day is tomorrow")){
131 long unixTime = System.currentTimeMillis();
132 calendarView.setDate(unixTime+86400000);
133 String monthName = (String)android.text.format.DateFormat.format(
134 inFormat: "MMMM", calendarView.getDate());
135 String day=(String)android.text.format.DateFormat.format(
136 inFormat: "d", calendarView.getDate());
137 String year = (String)android.text.format.DateFormat.format(
138 inFormat: "yyyy", calendarView.getDate());
139 String text = "tomorrow is "+monthName+" "+day+" "+year;
140 tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech")
141 }

142 if (results.get(0).equals("call emergency")){
143 StringBuilder sb=new StringBuilder();
144 for (int i=1;i<results.size();i++){
145 sb.append(results.get(i));
146 }
147 Intent callIntent = new Intent(Intent.ACTION_CALL,
148 Uri.parse("tel:"+R.string.emergency_number));
149 startActivity(callIntent);
150
151 Toast.makeText(context: MainActivity.this, sb.toString(), Toast.LENGTH_SHORT)
152 }
153 }
154 super.onActivityResult(requestCode, resultCode, data);
155 }
156 }
157 }
158 }
159 }
160 }
161 }

12:08 •

Calendar by Y.Sun

March 2022

Allow Calendar by Y.Sun to make and manage phone calls?

Allow Deny

SPEECH RECOGNITION

Run TODO Problems Terminal Build Profiler App Inspection

Event Log Layout Inspector

Launch succeeded (a minute ago)

161:1 LF UTF-8 4 spaces

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help Lab5 - MainActivity.java [Lab5.app]

Lab5 > app > src > main > java > com > yangqingsun > lab5 > MainActivity

Emulator: Pixel 4 API 30

Project Manager

Resource Manager

Gradle

Device Manager

Android

activity_main.xml

MainActivity.java

AndroidManifest.xml

strings.xml

Emulator: Pixel 4 API 30

126 String text = "today is "+monthName+" "+day+" "+year; ▲ 5 ^ v
127 tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech")
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136 inFormat: "d", calendarView.getDate());
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138 inFormat: "yyyy", calendarView.getDate());
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151 Toast.makeText(context: MainActivity.this, sb.toString(), Toast.LENGTH_SHORT)
152 }
153 }
154 super.onActivityResult(requestCode, resultCode, data);
155 }
156 }
157 }
158 }
159 }
160 }
161 }

12:08

Calendar by Y.Sun

Google

what day is today

English (United States)

SPEECH RECOGNITION

Google Speech Services converts audio to text and shares the text with this app.

Run TODO Problems Terminal Build Profiler App Inspection

Event Log Layout Inspector

Launch succeeded (a minute ago)

161:1 LF UTF-8 4 spaces

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help Lab5 - MainActivity.java [Lab5.app]

Lab5 > app > src > main > java > com > yangqingsun > lab5 > MainActivity

Emulator: Pixel 4 API 30

Project Manager

Resource Manager

Gradle

Device Manager

Android

activity_main.xml MainActivity.java AndroidManifest.xml strings.xml

String text = "today is "+monthName+" "+day+" "+year; tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech") Log.i(tag: "TextToSpeech", msg: "tts"); }

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super.onActivityResult(requestCode, resultCode, data); }

12:11 12 March 2022 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

CALENDAR BY Y.SUN

SPEECH RECOGNITION

Run TODO Problems Terminal Build Profiler App Inspection Event Log Layout Inspector

Launch succeeded (4 minutes ago)

161:1 LF UTF-8 4 spaces

+

1:1

Device File Explorer

Emulator

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help Lab5 - MainActivity.java [Lab5.app]

Lab5 > app > src > main > java > com > yangqingsun > lab5 > MainActivity

Emulator: Pixel 4 API 30

Project Manager

Resource Manager

Gradle

Device Manager

Android

activity_main.xml

MainActivity.java

AndroidManifest.xml

strings.xml

Emulator: Pixel 4 API 30

126 String text = "today is "+monthName+" "+day+" "+year; ▲ 5 ^ v
127 tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech")
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130 if (spokenText.equals("what day is tomorrow")){
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134 inFormat: "MMMM", calendarView.getDate());
135 String day=(String)android.text.format.DateFormat.format(
136 inFormat: "d", calendarView.getDate());
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148 Uri.parse("tel:"+R.string.emergency_number));
149 startActivity(callIntent);
150
151 Toast.makeText(context: MainActivity.this, sb.toString(), Toast.LENGTH_SHORT)
152 }
153 }
154 super.onActivityResult(requestCode, resultCode, data);
155 }
156 }
157 }
158 }
159 }
160 }
161 }

12:08

Calendar by Y.Sun

Google

what day is tomorrow

English (United States)

SPEECH RECOGNITION

Google Speech Services converts audio to text and shares the text with this app.

Run TODO Problems Terminal Build Profiler App Inspection

Event Log Layout Inspector

Launch succeeded (2 minutes ago)

161:1 LF UTF-8 4 spaces

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help Lab5 - MainActivity.java [Lab5.app]

Lab5 > app > src > main > java > com > yangqingsun > lab5 > MainActivity

Emulator: Pixel 4 API 30

Project

Resource Manager

Gradle

Device Manager

Android

activity_main.xml

MainActivity.java

AndroidManifest.xml

strings.xml

Emulator: Pixel 4 API 30

126 String text = "today is "+monthName+" "+day+" "+year; A5

127 tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech")

128 Log.i(tag: "TextToSpeech", msg: "tts");

129 }

130

131 if (spokenText.equals("what day is tomorrow")){

132 long unixTime = System.currentTimeMillis();

133 calendarView.setDate(unixTime+86400000);

134 String monthName = (String)android.text.format.DateFormat.format(

135 inFormat: "MMMM", calendarView.getDate());

136 String day=(String)android.text.format.DateFormat.format(

137 inFormat: "d", calendarView.getDate());

138 String year = (String)android.text.format.DateFormat.format(

139 inFormat: "yyyy", calendarView.getDate());

140 String text = "tomorrow is "+monthName+" "+day+" "+year;

141 tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech")

142 }

143

144 if (results.get(0).equals("call emergency")){

145 StringBuider sb=new StringBuider();

146 for (int i=1;i<results.size();i++){

147 sb.append(results.get(i));

148 }

149 Intent callIntent = new Intent(Intent.ACTION_CALL,

150 Uri.parse("tel:"+R.string.emergency_number));

151.startActivity(callIntent);

152

153 Toast.makeText(context: MainActivity.this, sb.toString(), Toast.LENGTH_SHORT)

154 }

155 }

156 super.onActivityResult(requestCode, resultCode, data);

157 }

158 }

159 }

160 }

161 }

12:12

Calendar by Y.Sun

March 2022

S	M	T	W	T	F	S
					1	2
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

SPEECH RECOGNITION

Run TODO Problems Terminal Build Profiler App Inspection

Event Log Layout Inspector

Launch succeeded (5 minutes ago)

161:1 LF UTF-8 4 spaces

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help Lab5 - MainActivity.java [Lab5.app]

Lab5 > app > src > main > java > com > yangqingsun > lab5 > MainActivity

Emulator: Pixel 4 API 30

Project Manager

Resource Manager

Gradle

Device Manager

Android

activity_main.xml

MainActivity.java

AndroidManifest.xml

strings.xml

Emulator: Pixel 4 API 30

126 String text = "today is "+monthName+" "+day+" "+year; ▲ 5 ^ v
127 tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech")
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130 if (spokenText.equals("what day is tomorrow")){
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133 String monthName = (String)android.text.format.DateFormat.format(
134 inFormat: "MMMM", calendarView.getDate());
135 String day=(String)android.text.format.DateFormat.format(
136 inFormat: "d", calendarView.getDate());
137 String year = (String)android.text.format.DateFormat.format(
138 inFormat: "yyyy", calendarView.getDate());
139 String text = "tomorrow is "+monthName+" "+day+" "+year;
140 tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech")
141 }

142 if (results.get(0).equals("call emergency")){
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144 for (int i=1;i<results.size();i++){
145 sb.append(results.get(i));
146 }
147 Intent callIntent = new Intent(Intent.ACTION_CALL,
148 Uri.parse("tel:"+R.string.emergency_number));
149 startActivity(callIntent);
150
151 Toast.makeText(context: MainActivity.this, sb.toString(), Toast.LENGTH_SHORT)
152 }
153 }
154 super.onActivityResult(requestCode, resultCode, data);
155 }
156 }
157 }
158 }
159 }
160 }
161 }

12:16

Calendar by Y.Sun

Google

call emergency

English (United States)

SPEECH RECOGNITION

Google Speech Services converts audio to text and shares the text with this app.

Run TODO Problems Terminal Build Profiler App Inspection

Event Log Layout Inspector

Launch succeeded (9 minutes ago)

161:1 LF UTF-8 4 spaces

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help Lab5 - MainActivity.java [Lab5.app]

Lab5 > app > src > main > java > com > yangqingsun > lab5 > MainActivity

Emulator: Pixel 4 API 30

Project Manager

Resource Manager

Gradle

Device Manager

Android

activity_main.xml MainActivity.java AndroidManifest.xml strings.xml

String text = "today is "+monthName+" "+day+" "+year; tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech") Log.i(tag: "TextToSpeech", msg: "tts"); }

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super.onActivityResult(requestCode, resultCode, data); }

Emulator: Pixel 4 API 30

12:16

(210) 165-9610 00:08

Mute Keypad Speaker

Add call Hold

Event Log Layout Inspector

161:1 LF UTF-8 4 spaces

Run TODO Problems Terminal Build Profiler App Inspection

Launch succeeded (9 minutes ago)

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help Lab5 - MainActivity.java [Lab5.app]

Lab5 > app > src > main > java > com > yangqingsun > lab5 > MainActivity

Emulator: Pixel 4 API 30

Project

Resource Manager

Gradle

Device Manager

Android

app

manifests

AndroidManifest.xml

java

com.yangqingsun.lab5

MainActivity

com.yangqingsun.lab5 (androidTest)

com.yangqingsun.lab5 (test)

java (generated)

res

drawable

layout

activity_main.xml

mipmap

values

colors.xml

strings.xml

themes (2)

res (generated)

Gradle Scripts

activity_main.xml

MainActivity.java

AndroidManifest.xml

strings.xml

Emulator: Pixel 4 API 30

120 String monthName = (String) android.text.format.DateFormat.format(

121 inFormat: "MMMM", new Date());

122 String day=(String) android.text.format.DateFormat.format(

123 inFormat: "d", new Date());

124 String year = (String) android.text.format.DateFormat.format(

125 inFormat: "yyyy", new Date());

126 String text = "today is "+monthName+" "+day+ ' '+year;

127 tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech")

128 Log.i(tag: "TextToSpeech", msg: "tts");

129 }

130

131 if (spokenText.equals("what day is tomorrow")){

132 long unixTime = System.currentTimeMillis();

133 calendarView.setDate(unixTime+86400000);

134 String monthName = (String) android.text.format.DateFormat.format(

135 inFormat: "MMMM", calendarView.getDate());

136 String day=(String) android.text.format.DateFormat.format(

137 inFormat: "d", calendarView.getDate());

138 String year = (String) android.text.format.DateFormat.format(

139 inFormat: "yyyy", calendarView.getDate());

140 String text = "tomorrow is "+monthName+" "+day+ ' '+year;

141 tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech")

142 }

143

144 if (results.get(0).equals("call emergency")){

145 StringBuilder sb=new StringBuilder();

146 for (int i=1;i<results.size();i++){

147 sb.append(results.get(i));

148 }

149 Intent callIntent = new Intent(Intent.ACTION_CALL,

150 Uri.parse("tel:"+R.string.emergency_number));

151 startActivity(callIntent);

152

153 Toast.makeText(context: MainActivity.this, sb.toString(), Toast.LENGTH_SHORT)

154 }

155 }

156 super.onActivityResult(requestCode, resultCode, data);

157 }

158 }

159 }

160 }

12:34

Calendar by Y.Sun

March 2022

S M T W T F S

1 2 3 4 5

9 10 11 12

17 18 19

24 25 26

27 28 29 30 31

Select the date manually.

SPEECH RECOGNITION

Selected date is March 31, 2022

Run TODO Problems Terminal Build Profiler App Inspection

Event Log Layout Inspector

Launch succeeded (28 minutes ago)

161:1 LF UTF-8 4 spaces

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help Lab5 - MainActivity.java [Lab5.app]

Lab5 > app > src > main > java > com > yangqingsun > lab5 > MainActivity

Emulator: Pixel 4 API 30

Project Manager

Resource Manager

Gradle

Device Manager

Android

activity_main.xml

MainActivity.java

AndroidManifest.xml

strings.xml

Emulator: Pixel 4 API 30

126 String text = "today is "+monthName+" "+day+" "+year; ▲ 5 ^ v
127 tts.speak(text, TextToSpeech.QUEUE_ADD, params: null, utteranceId: "speech")
128 Log.i(tag: "TextToSpeech", msg: "tts");
129 }

130 if (spokenText.equals("what day is tomorrow")){
131 long unixTime = System.currentTimeMillis();
132 calendarView.setDate(unixTime+86400000);
133 String monthName = (String)android.text.format.DateFormat.format(
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135 String day=(String)android.text.format.DateFormat.format(
136 inFormat: "d", calendarView.getDate());
137 String year = (String)android.text.format.DateFormat.format(
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142 if (results.get(0).equals("call emergency")){
143 StringBuilder sb=new StringBuilder();
144 for (int i=1;i<results.size();i++){
145 sb.append(results.get(i));
146 }
147 Intent callIntent = new Intent(Intent.ACTION_CALL,
148 Uri.parse("tel:"+R.string.emergency_number));
149 startActivity(callIntent);
150
151 Toast.makeText(context: MainActivity.this, sb.toString(),
152 Duration.ofSeconds(3));
153 }
154 }
155 super.onActivityResult(requestCode, resultCode, data);
156 }
157 }
158 }
159 }
160 }
161 }

12:16 ⚡ •

Calendar by Y.Sun

March 2022

S	M	T	W	T	F	S
					1	2
6	7	8	9	10	11	12
13	14	15	16	17	18	19
21	22	23	24	25	26	
29	30	31				

You will get extra credits if you modify the code and then successfully call the Maps app to navigate home by saying "navigate home".

SPEECH RECOGNITION

Run TODO Problems Terminal Build Profiler App Inspection

Event Log Layout Inspector

Launch succeeded (10 minutes ago)

161:1 LF UTF-8 4 spaces